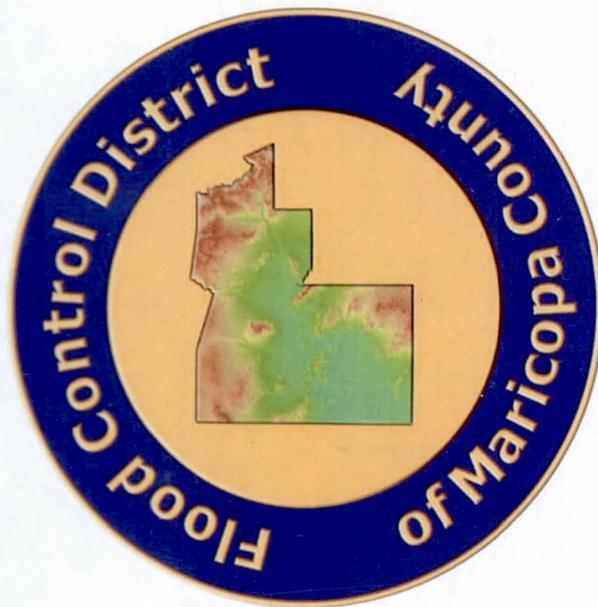


1399.040

# Flood Awareness & Public Risk Survey



Prepared by



Creative Consumer Research

October 2013

[www.ccrsurveys.com](http://www.ccrsurveys.com) • 877.530.9646

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# Research Objectives

- Flood Control District of Maricopa County set out to:
  - Understand Maricopa County residents' awareness of flood control issues within the county;
  - Understand residents' responses to outreach efforts currently being made by Flood Control District.
  - Determine a more effective message and the optimum media outlet to convey that message.



# Research Methodology

- In order to meet the objectives, CCR conducted a telephone survey with Maricopa County residents:
  - Completed 1,012 surveys.
  - Average survey length was 13 minutes.
  - Surveys were conducted from August 22 through October 1, 2013.
  - All surveys were conducted by CCR interviewers.
  - Interviews were recorded and monitored for quality assurance.
  - All numbers were dialed at random, with no control by the interviewers over which numbers were dialed.
  - Residents were told at the beginning of the survey that the Flood Control District was sponsoring the survey.



# Dialing Disposition Summary

Disposition	Total	%
No answer	50,900	35.94
Busy	5,906	4.17
Answering Machine	27,845	19.66
Non-Connection	30,747	21.65
Wrong Number	695	0.49
Generic Callback	3,009	2.12
Disconnect	6,102	4.31
Appointment Call Back	1,360	0.96
Initial Refusal	7,046	4.98
Terminate in Middle	623	0.44
Language Barrier	2,156	1.52
Fax/Modem/Business	2,423	1.71
Qualified Refusal	169	0.12
Call Block/Blocked number	39	0.03
Never Call	1,207	0.85
Over Quota	276	0.19
Complete	1,012	0.71
Out of District	40	0.03
Refused age/Under 18	24	0.02
Refused ethnic	34	0.02
<b>TOTAL ATTEMPTS</b>	<b>141,613</b>	<b>100</b>

CCR conducted a total of 141,613 dialings of which 20,117 were live contacts to complete the 1,012 surveys.

This translates to a 20:1 ratio of contacts to completed surveys.

*\*In the summer of 2013, CCR converted to an automated dialing system that places twice as many calls as was done previously by interviewers. Therefore, the comparison ratio CCR reports now is contacts made to completes instead of dialings to completes.*





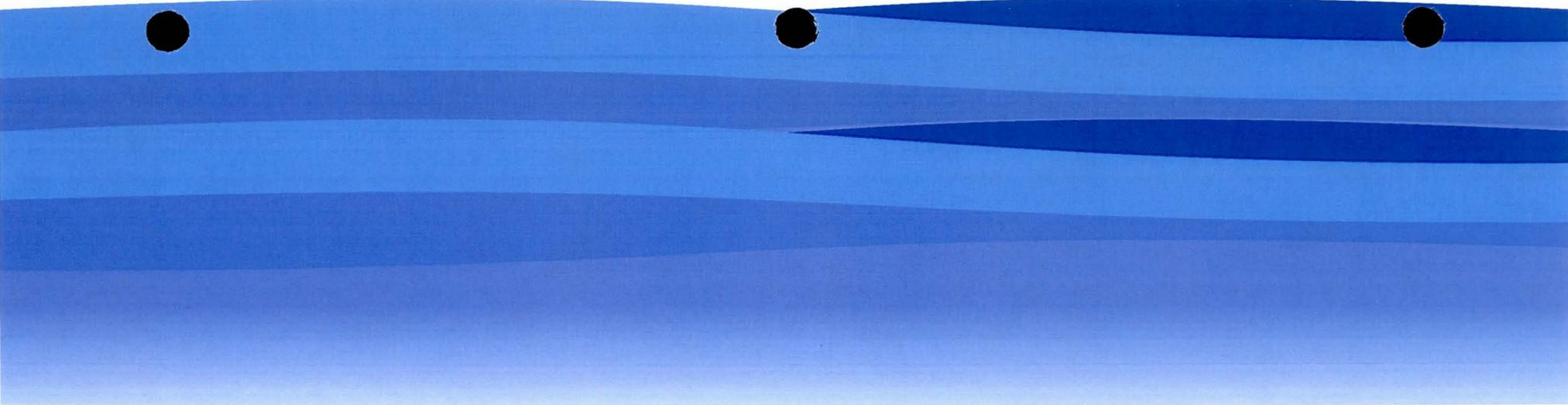
# Research Methodology

- To participate in the study, respondents had to:
  - Live in one of the pre-designated zip codes provided by the Flood Control District;
  - Be at least 18 years of age;
  - Be the head of household.
- To ensure a representative sampling of residents, quotas were implemented by:
  - Age;
  - Gender;
  - Ethnicity;
  - And District.
- Results of the survey were analyzed for statistical significance. As a general rule and industry standard, CCR conducts significance testing at the 95% confidence level with a  $\pm 5\%$  margin of error.
  - This means that if the study were to be conducted 100 times, any differences that are noted in the report would be seen 95% of the time. Furthermore, any percentages shown are accurate within 5% up or down.

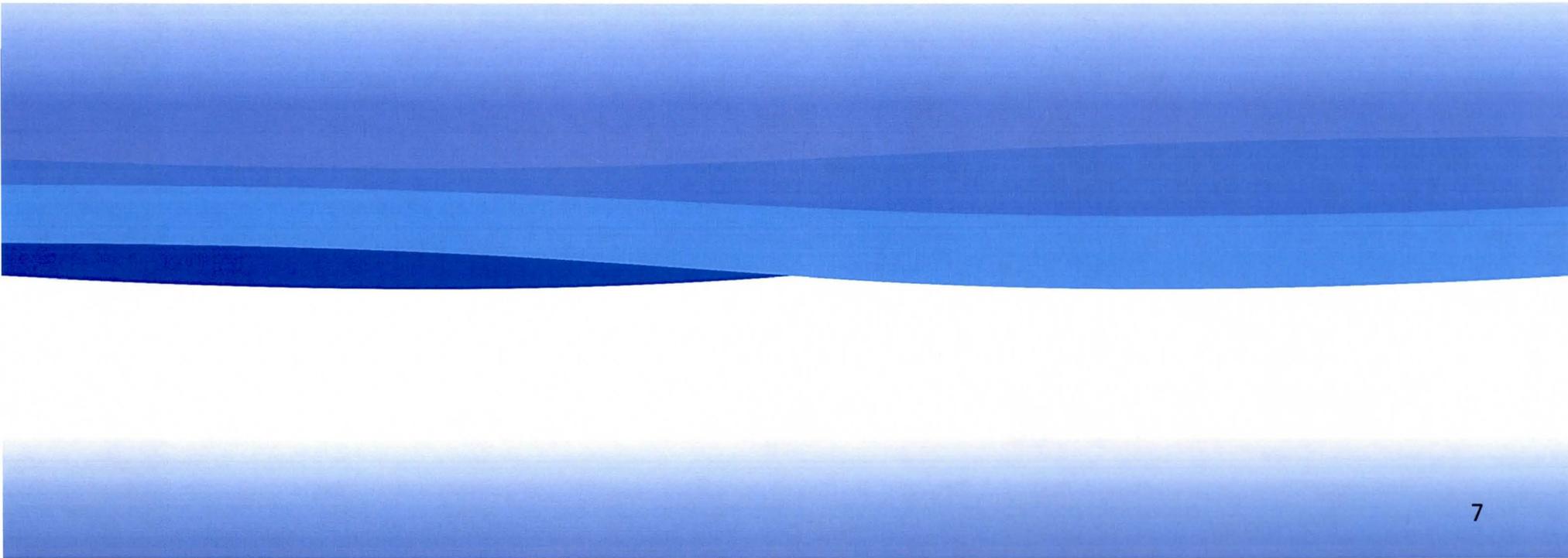


# Demographics

	Total Population
Age (Quotas set)	
Average	47
Gender (Quotas set)	
Male	52%
Female	48%
Ethnicity (Quotas set)	
White	62%
Hispanic	28%
African American	4%
Asian	3%
Income	
Average	\$62,840
<b>Base: Total Sample</b>	<b>1,012</b>



# RESEARCH RESULTS





# Recommendations

- Maintain awareness levels by continuing to communicate with residents regarding flood dangers and risks, insurance
- Communicate the need to have flood insurance by translating high awareness of flood risk into preventative actions like adding flood insurance
- Increase awareness of what FCD is doing to head off flood issues and what resources are available to the community
- Use a variety of methods to communicate, but focus efforts through television (public service announcements, news reports), radio, and social media.



# Flood Risk Awareness Summary

- Residents exhibit strong awareness of the flood risk that exists in Maricopa County
  - They are knowledgeable about the dangers, but less knowledgeable about what is being done in terms of flood control and the resources available to them
  - And rightfully associate flash flooding with danger
- Residents appear to expect floods, but not anymore than previously
  - Most (64%) do not feel at risk for flooding
  - A majority expect flash flooding to occur in the next year
  - Most believe flooding problems have remained consistent or decreased
- Awareness has increased for flood-related messages and availability of Federally-backed flood insurance
  - More are aware of Federally-backed flood insurance in 2013 (36%) compared to 2012 (29%)



# Flooding and Residence Summary

- Residents have a confidence that they will not be affected by flooding which may be driving why some have not acquired flood insurance; they simply believe that they don't need it
  - 85% feel their home is not at risk of flooding, this is similar to last year's results
  - Like last year, very few (5%) have experienced flood damage at home
  - Half of residents (52%), fewer than last year (60%), are not sure if they live in a 100-year flood zone
  - A majority (70%) report having no flood insurance, similar to last year
  - 55% realize homeowner's insurance does not include flood insurance, this is an increase from last year (45%)
- They have no clear idea of what the Flood Control District is or does other than being a government entity that deals with flooding.



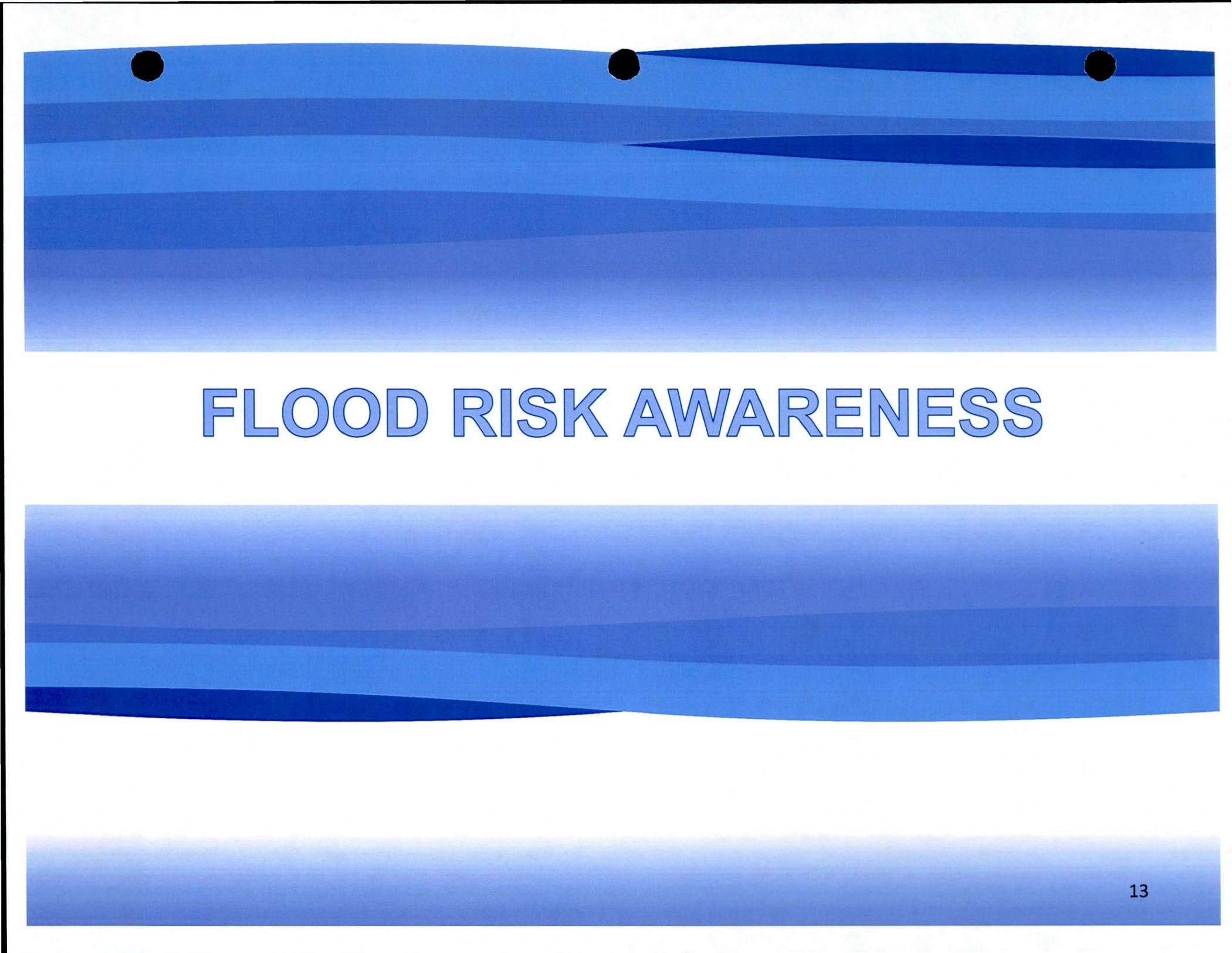
# Flooding and Residence Summary

- If residents do experience flooding, are more likely to try to prevent future flood risk
  - However, most (72%) of those who have experienced damage have taken preventative measures (add drainage system) to reduce future flooding
    - Only 28% said they had taken preventative measures last year



# Communicating Flood Risks Summary

- Residents are receiving and retaining the message not to drive into flooded streets/washes
  - They report strong ad recall for the 'vehicle driving into a flooded street' ad (73% remember ad), and this is an increase from 66% last year
  - About half have been confronted with a flooded street and had to decide how to react; most (74%) turn around
    - A few drive into the water because they thought it would be safe
- Communication avenues residents depend upon most are television, radio, and social media
  - TV/news reports are primary way residents will learn about flash flooding
  - They feel messages are easy to understand, and they prominent message they recall across media forms is to stay out of flood waters
  - Dependence on/Usage of social has increased since last year

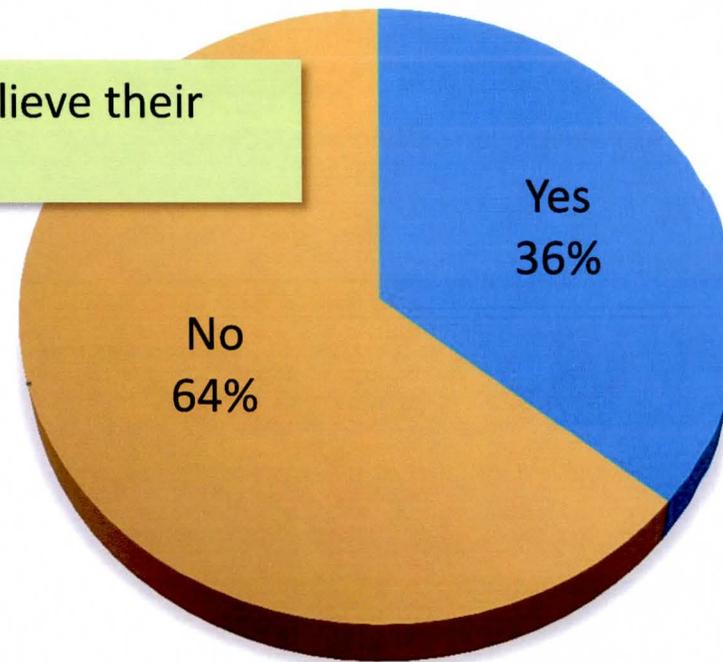


# FLOOD RISK AWARENESS



# Believe Residence at Risk For Flooding

A majority (64%) do not believe their home is at risk of flooding.



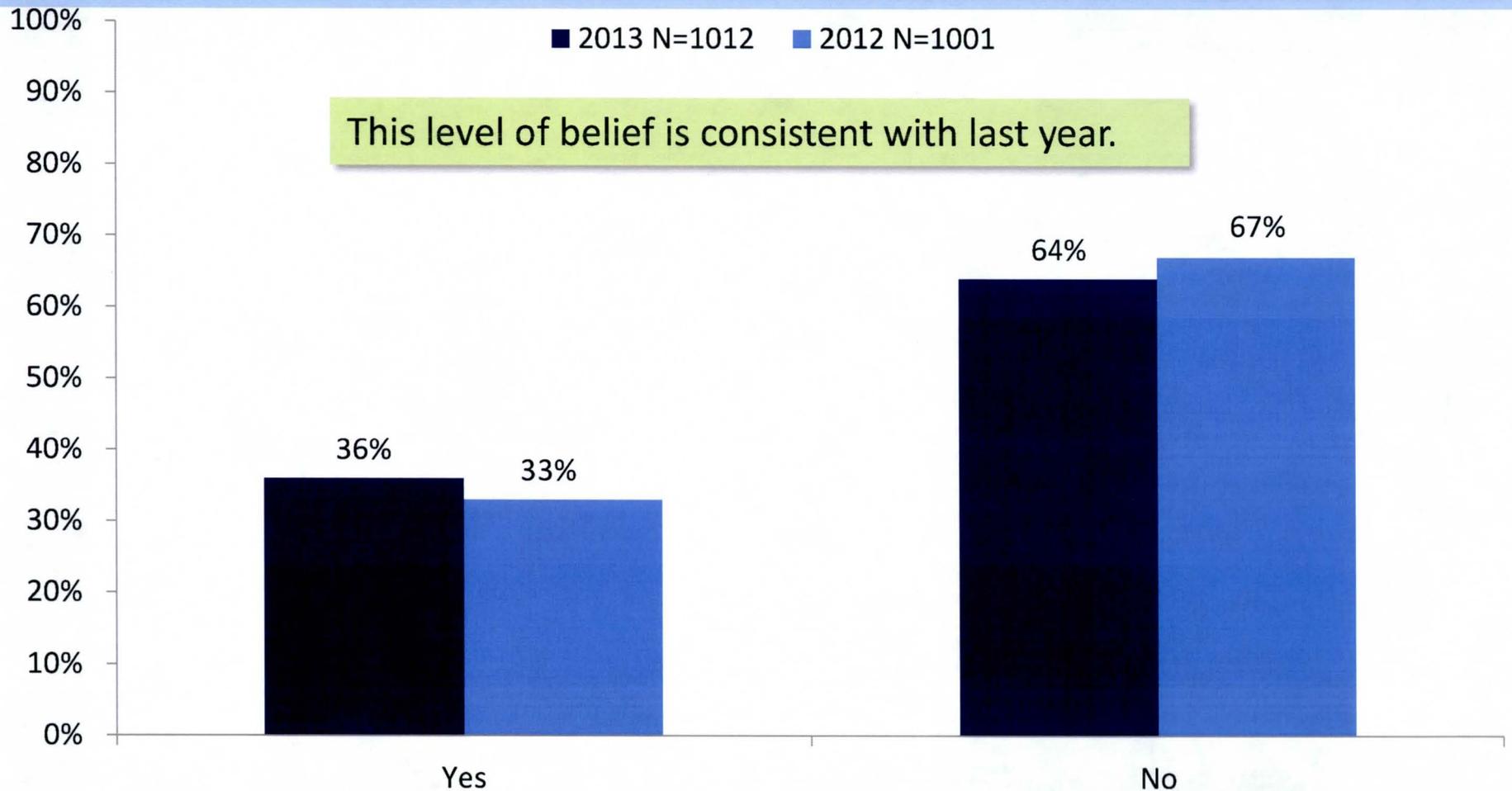
Total Sample (N = 1012)

■ Yes ■ No

1. Do you believe that there is a flooding risk or problem within 5 miles or less of your residence?



# Believe Residence at Risk For Flooding



1. Do you believe that there is a flooding risk or problem within 5 miles or less of your residence?



# Flood Risk and Safety Knowledge

Residents are knowledgeable about dangers and risks of flooding

## I know...

About the dangers of driving through flooded streets or washes

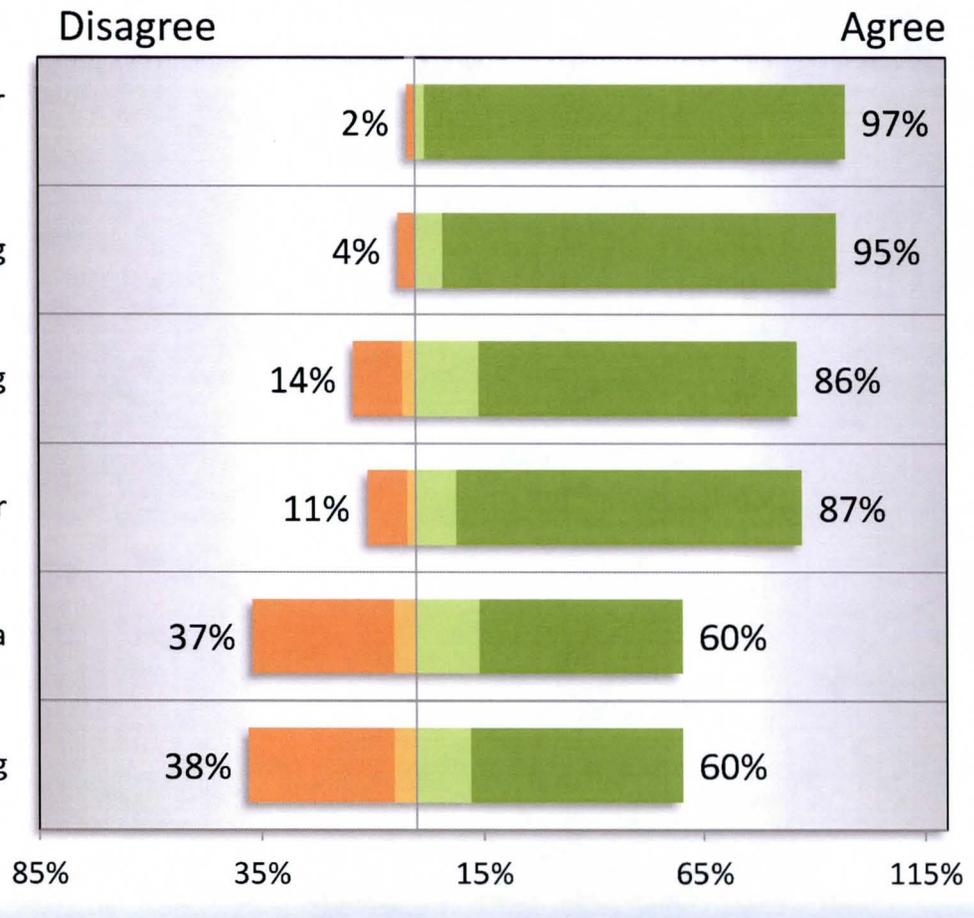
About the dangers of flooding

About safety precautions related to flooding

The time of year flooding is most likely to occur

About ways in which flooding is controlled in my area

About resources available to learn more about flooding



■ Somewhat disagree     ■ Disagree  
■ Somewhat agree     ■ Agree

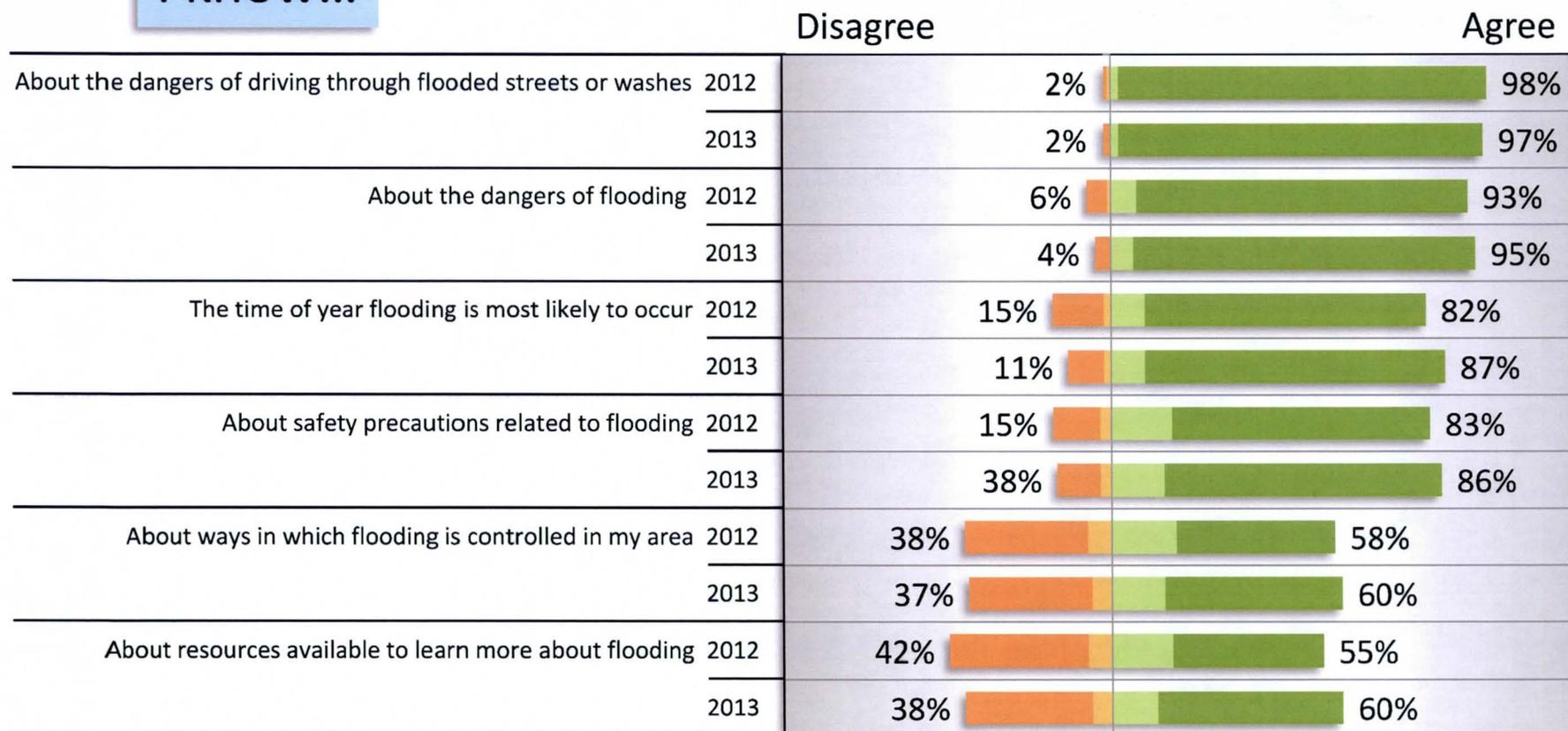
2. I'm going to read a few statements and I'd like to know if you "Agree", "Somewhat Agree", "Somewhat Disagree", or "Disagree" with each.





# Flood Risk and Safety Knowledge

I know...



■ Somewhat disagree 
 ■ Disagree 
 ■ Somewhat agree 
 ■ Agree

2. I'm going to read a few statements and I'd like to know if you "Agree", "Somewhat Agree", "Somewhat Disagree", or "Disagree" with each.





# Word Associations with 'Flash Flooding'

They relate flash flooding with danger, excessive water or rain.

	%
Water	15
Danger, Dangerous	11
Rain, Heavy rain, Downpour	9
Monsoon	7
Fast moving, Rapid water, Quick	6
Wash, Washes	6
Stay Away, Don't drive in it, Stay out of the water	5
Flood, Flooding, Street flooding	5
High water, A lot of water, Wall of water	4
<b>Base: Total Sample</b>	<b>1,012</b>

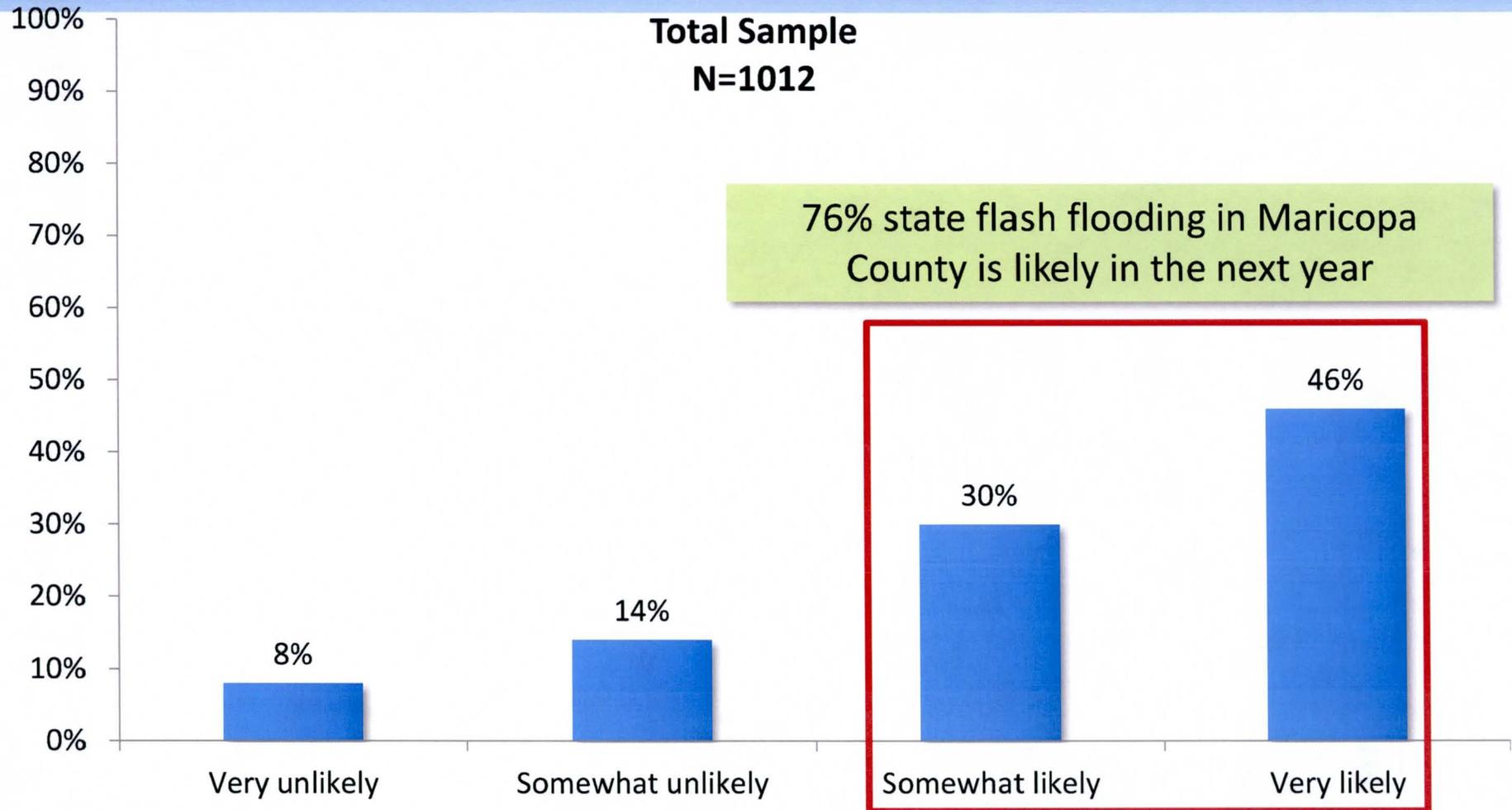
*\*All other mentions made by 3% or fewer*

3. What is the first word that comes to mind when I say "flash flooding"?





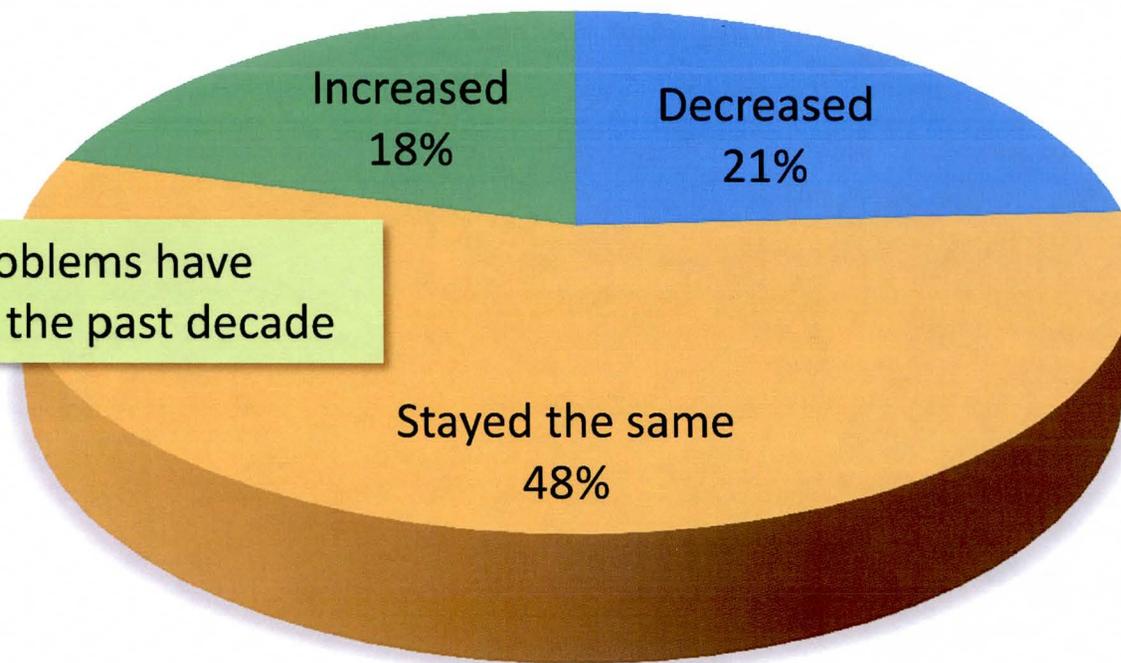
# Likelihood of Flash Flooding in Next Year



4. How likely is it that flash flooding will occur in Maricopa County during the next 12 months?



# In Last Decade, Changes in Flooding Problems?

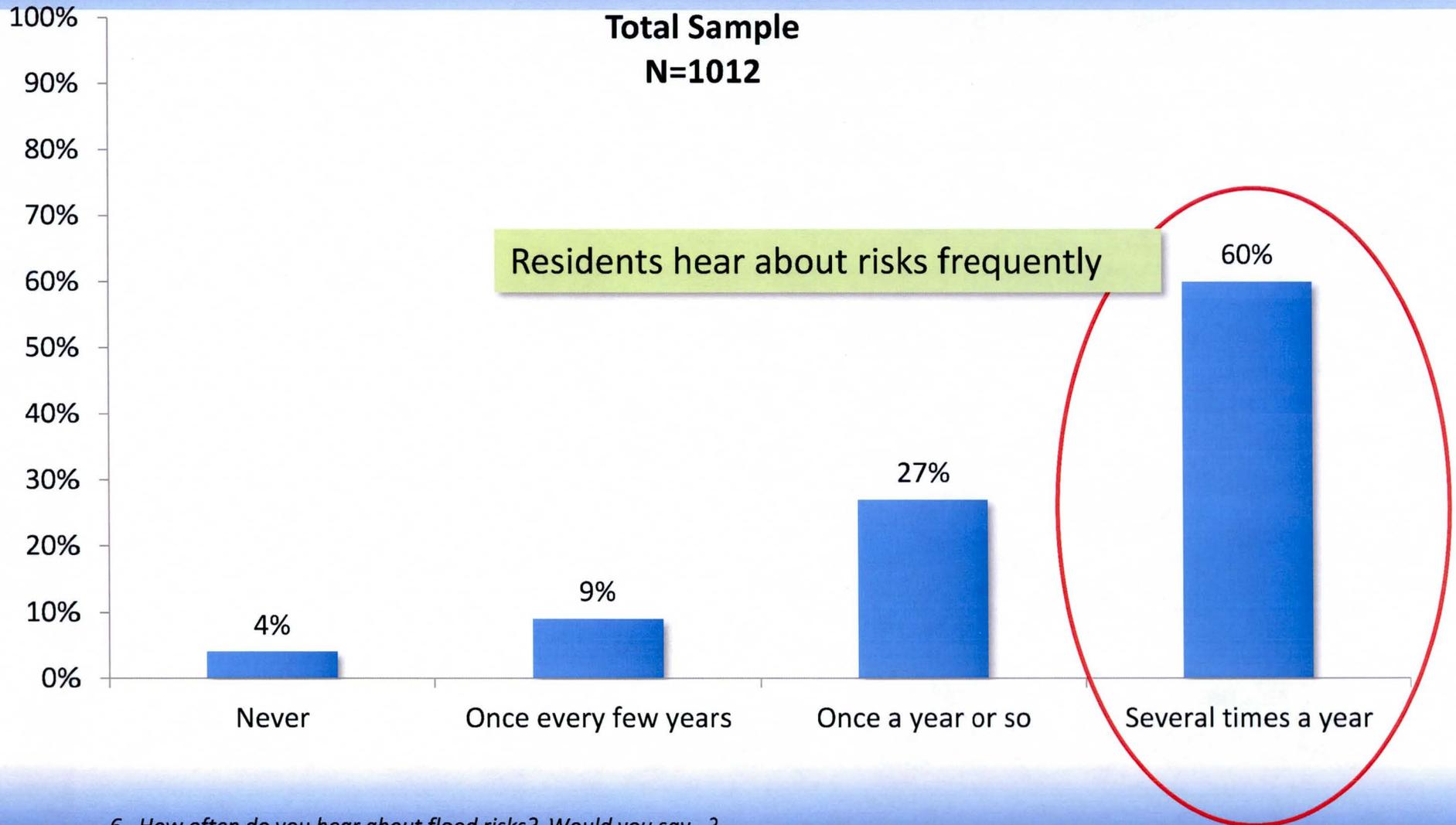


Total Sample (N = 1012)

5. Over the last 10 years, do you think the flooding problems in Maricopa County have decreased, stayed about the same or increased?



# Frequency of Hearing about Flash Flood Risks

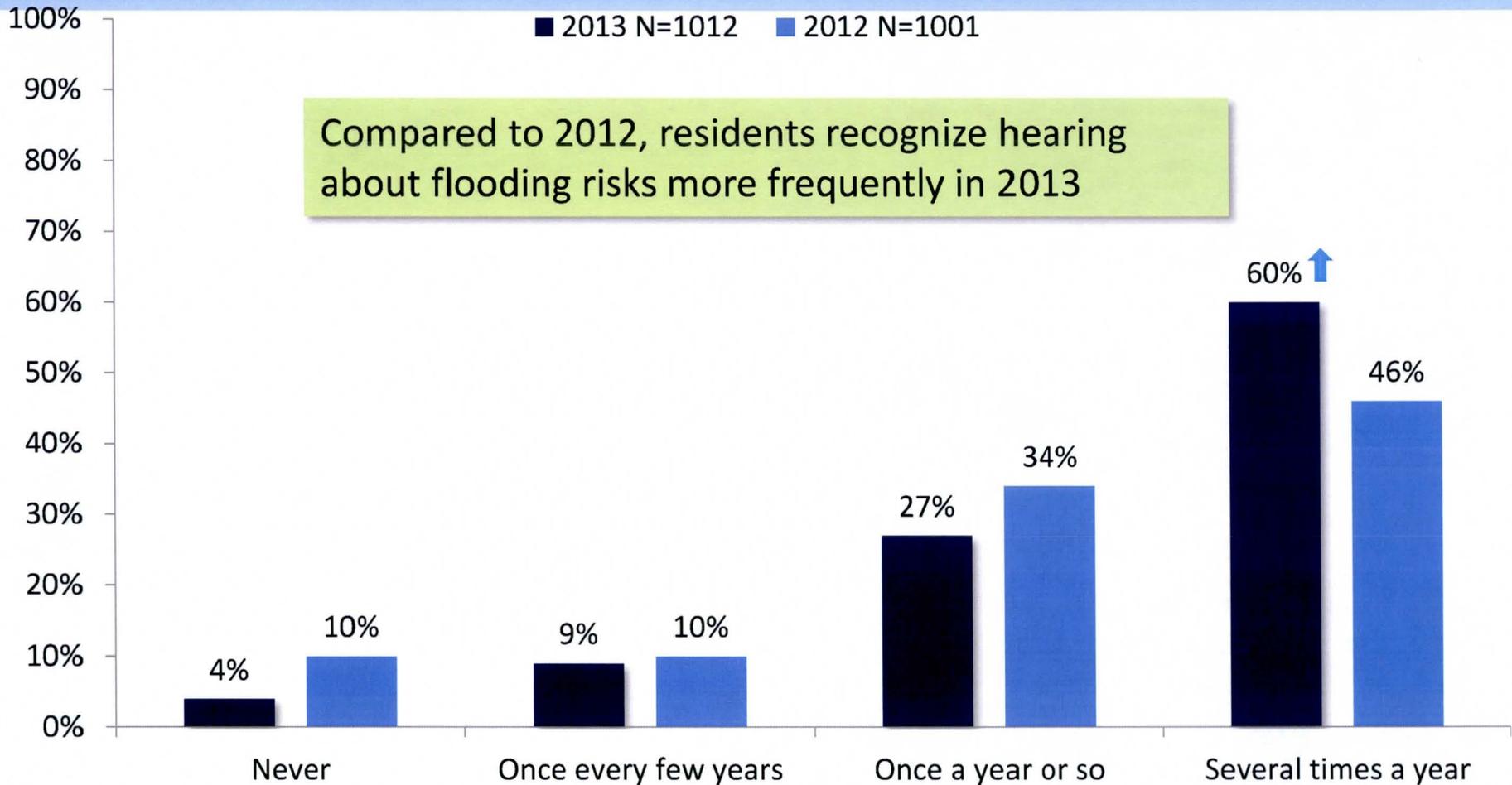


6. How often do you hear about flood risks? Would you say...?





# Frequency of Hearing about Flash Flood Risks

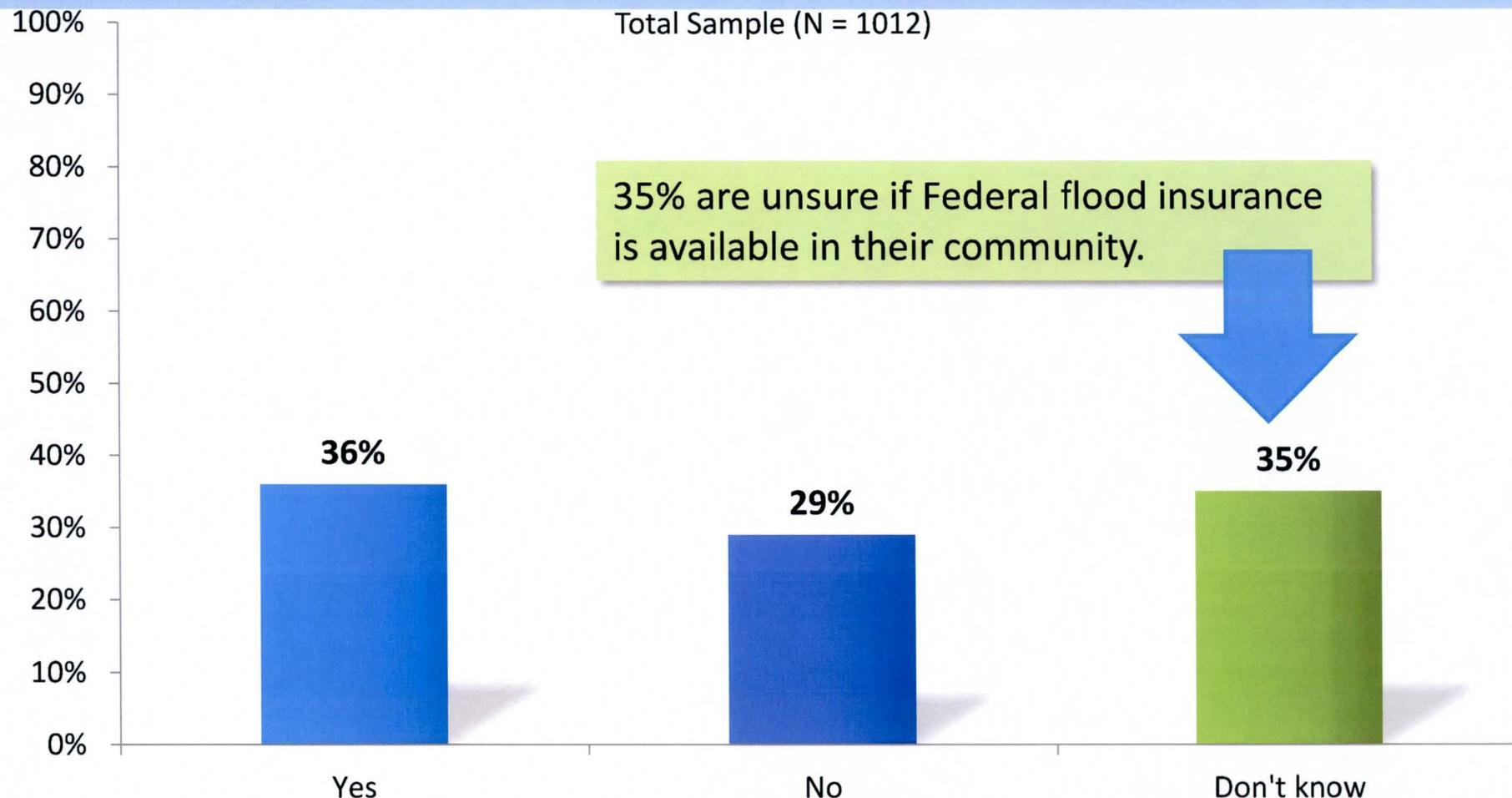


6. How often do you hear about flood risks? Would you say...?





# Availability of Federally-Backed Flood Insurance

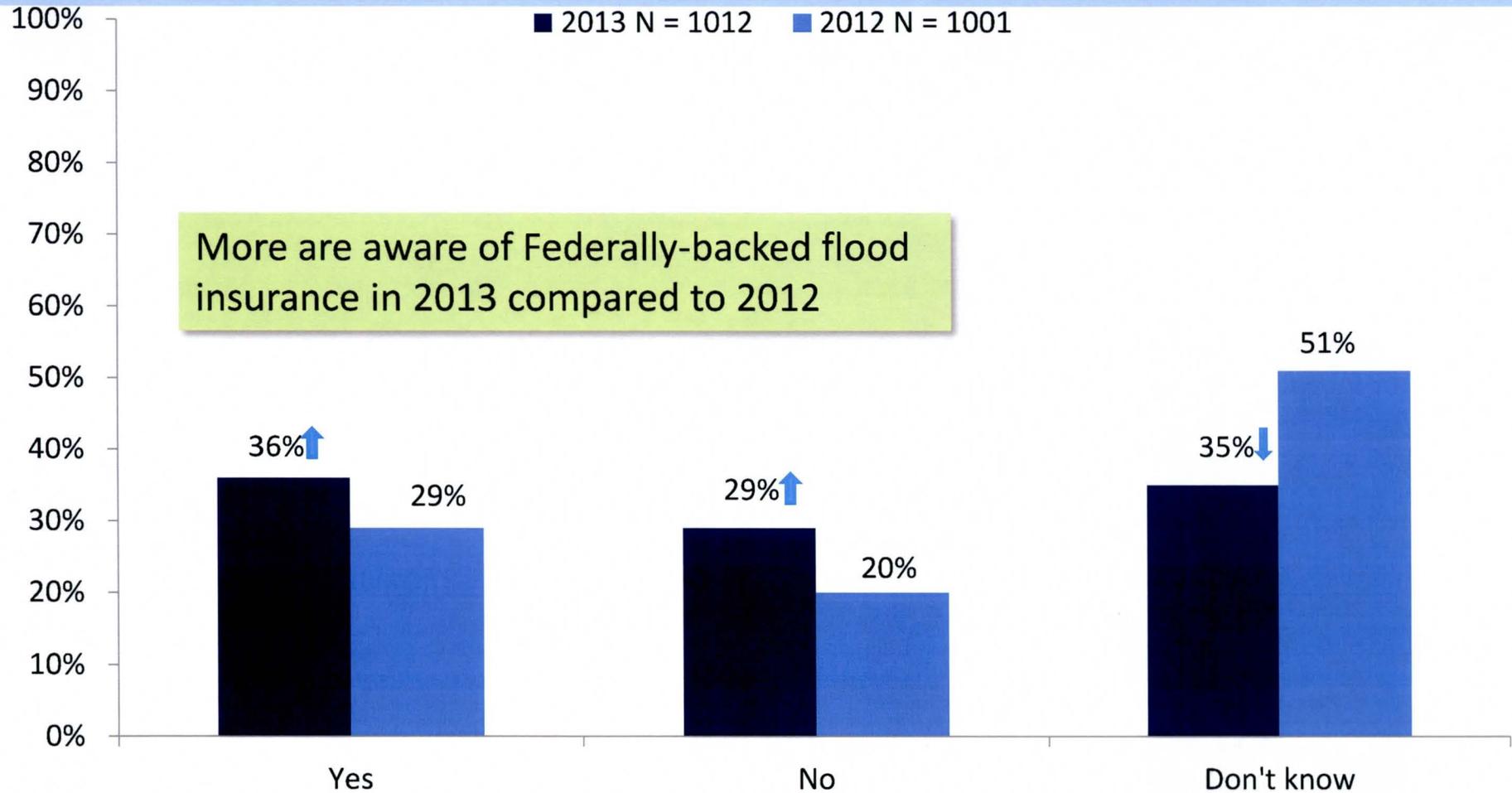


7. Do you know if Federally-backed flood insurance is available in your community?





# Availability of Federally-Backed Flood Insurance



7. Do you know if Federally-backed flood insurance is available in your community?

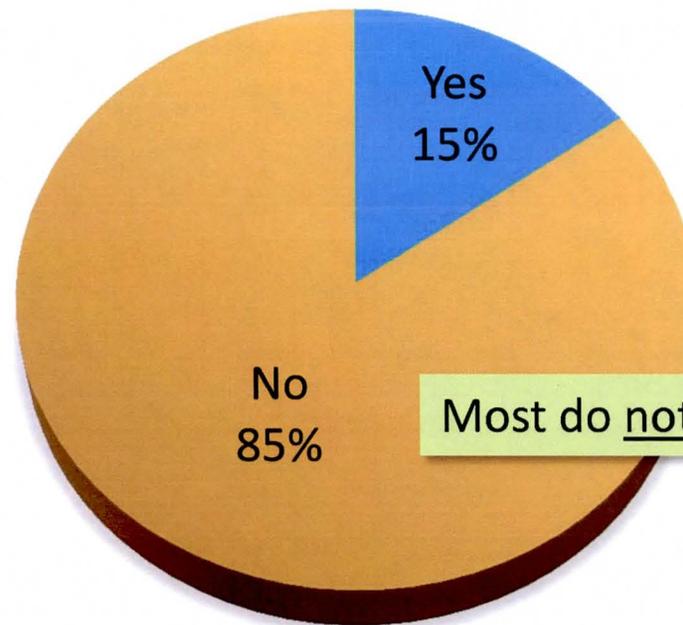




# FLOODING AND YOUR RESIDENCE



# Believe Residence at Risk For Flooding



Most do not feel their home is at risk

Total Sample (N = 1,012)

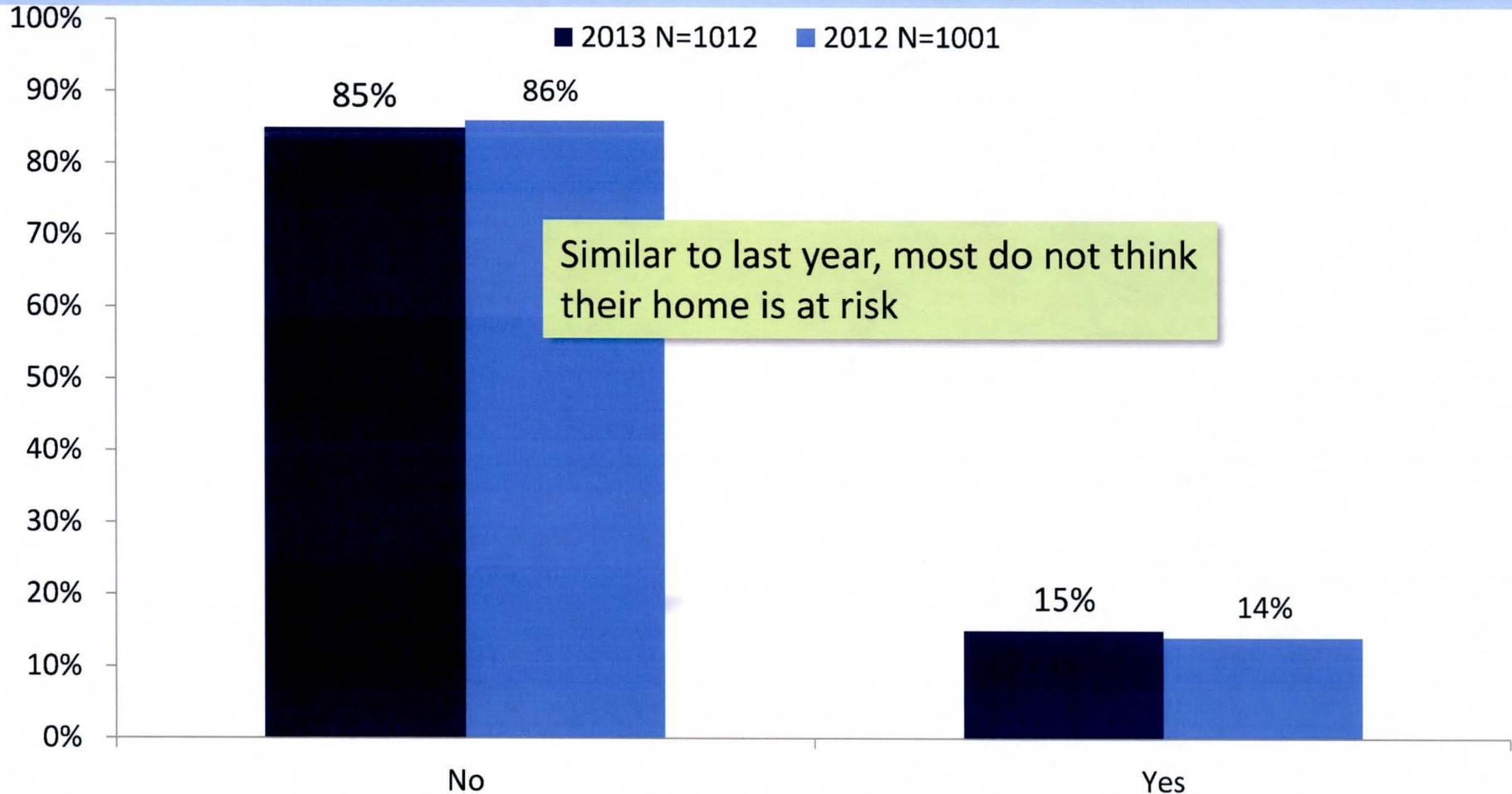
■ Yes ■ No

8. Do you believe your residence is at risk of being flooded?





# Believe Residence at Risk For Flooding



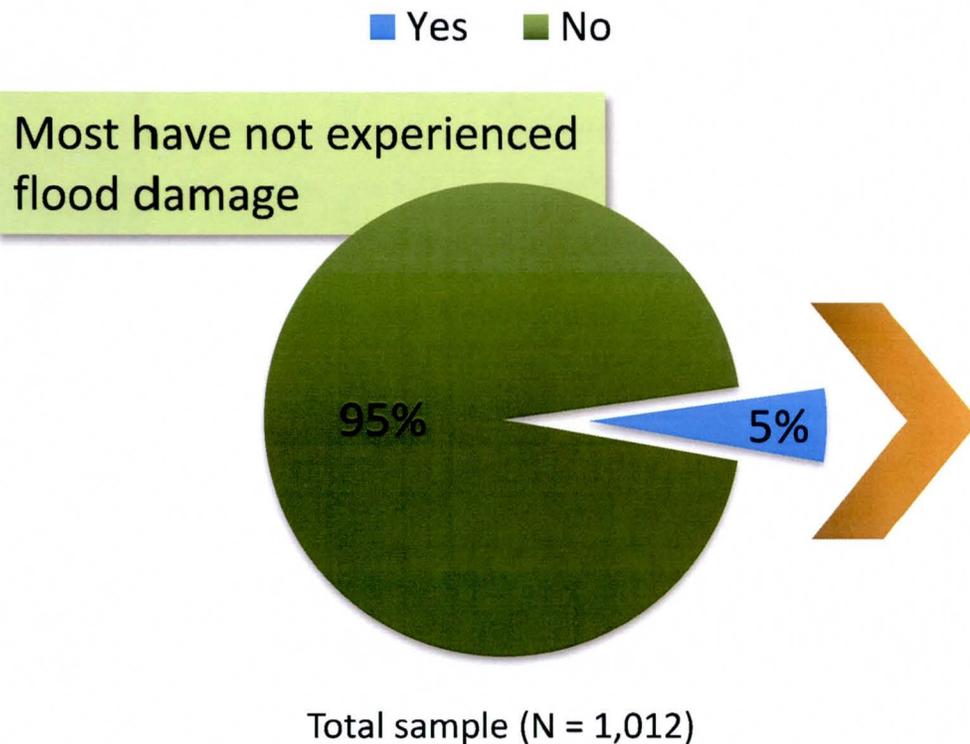
8. Do you believe your residence is at risk of being flooded?



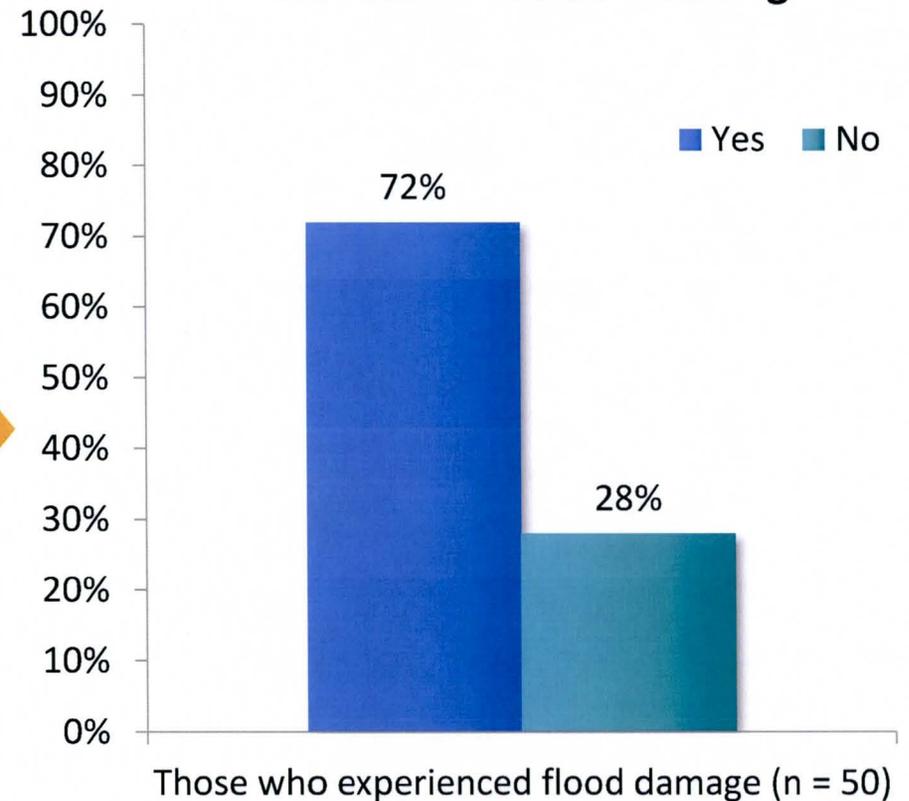


# Preventative Measures for Future Flooding

## Experienced Flood Damage



## Action Taken to Prevent or Reduce the Risk of Future Flooding



9. Have you ever experienced damage due to flooding at your current location?

10. After experiencing flood damage, did you do anything to prevent future flooding or reduce the flood risk?

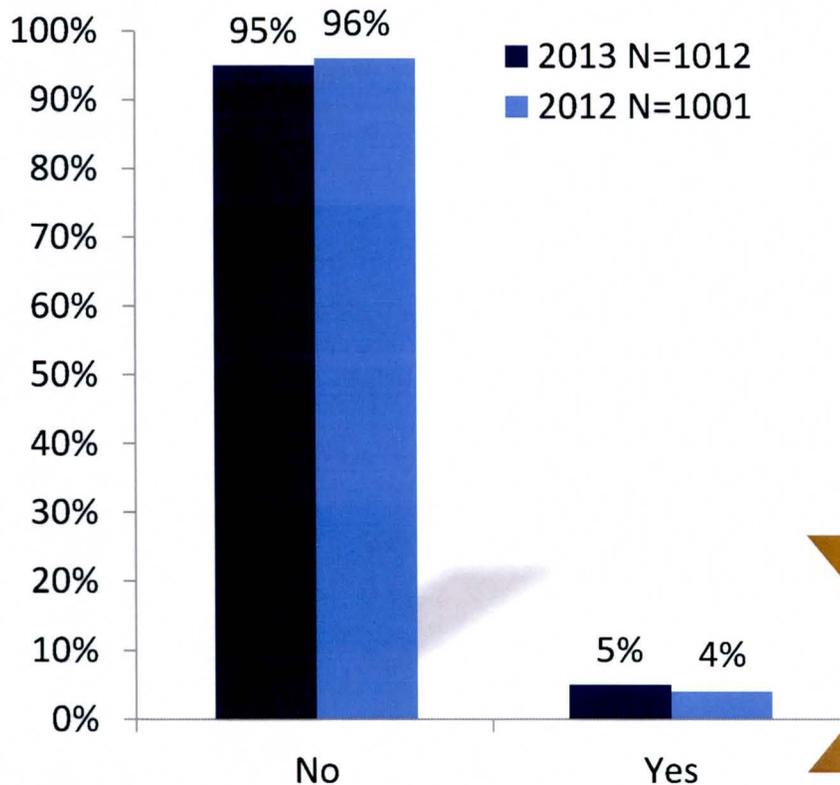




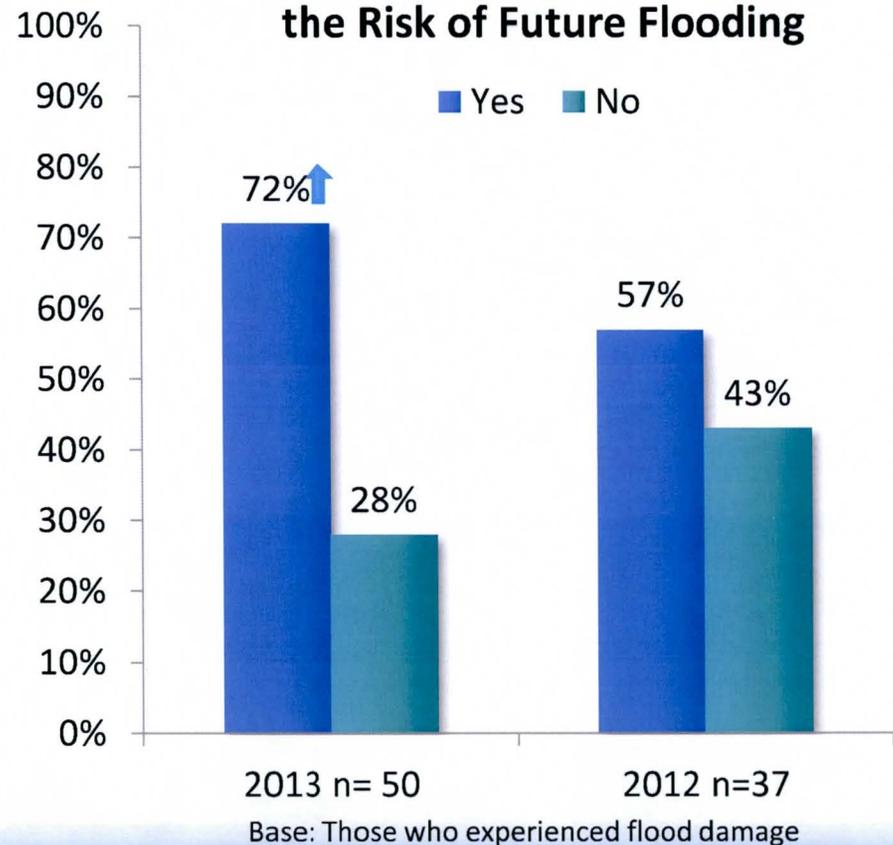
# Preventative Measures for Future Flooding

Although the same have experienced flood damage, more chose to take action this year to prevent/reduce future flooding

### Experienced Flood Damage



### Action Taken to Prevent or Reduce the Risk of Future Flooding



- 9. Have you ever experienced damage due to flooding at your current location?
- 10. After experiencing flood damage, did you do anything to prevent future flooding or reduce the flood risk?





# Measures Taken to Reduce Flood Risk

To prevent future flooding, residents' top prevention method was to add drainage systems

	# of Mentions
Added drainage systems	20
Added, built-up protection	9
Changed, repaired, adjusted pipes	5
Changed, adjusted behavior to prevent problems	2
Repaired, purchased new appliances, equipment	1
<b>Base: Those who have taken measures to reduce flood risk</b>	<b>36</b>

\*Note: Small Base Size



# Measures Taken to Reduce Flood Risk

# of Mentions shown	2013	2012
Added drainage systems	20	7
Added, built-up protection	9	5
Changed, repaired, adjusted pipes	5	2
Changed, adjusted behavior to prevent problems	2	2
Repaired, purchased new appliances, equipment	1	2
<b>Base: Those who have taken measures to reduce flood risk</b>	<b>36</b>	<b>21</b>

\*Note: Small Base Size



# Why Have Not Taken Action to Reduce Flood Risk

Cost and uncertainty hinder residents from conducting prevention.

	# of Mentions
Do not believe that home or apartment is at risk	4
Cost	3
Flood insurance is too expensive	2
Not sure which action to take	2
Rent property, not my responsibility	1
Have insurance	1
City, community is handling flood control, put in measures	1
Don't know/refused	3
<b>Base: Those who have not taken measures to reduce flood risk or prevent future flooding at residence</b>	<b>14</b>

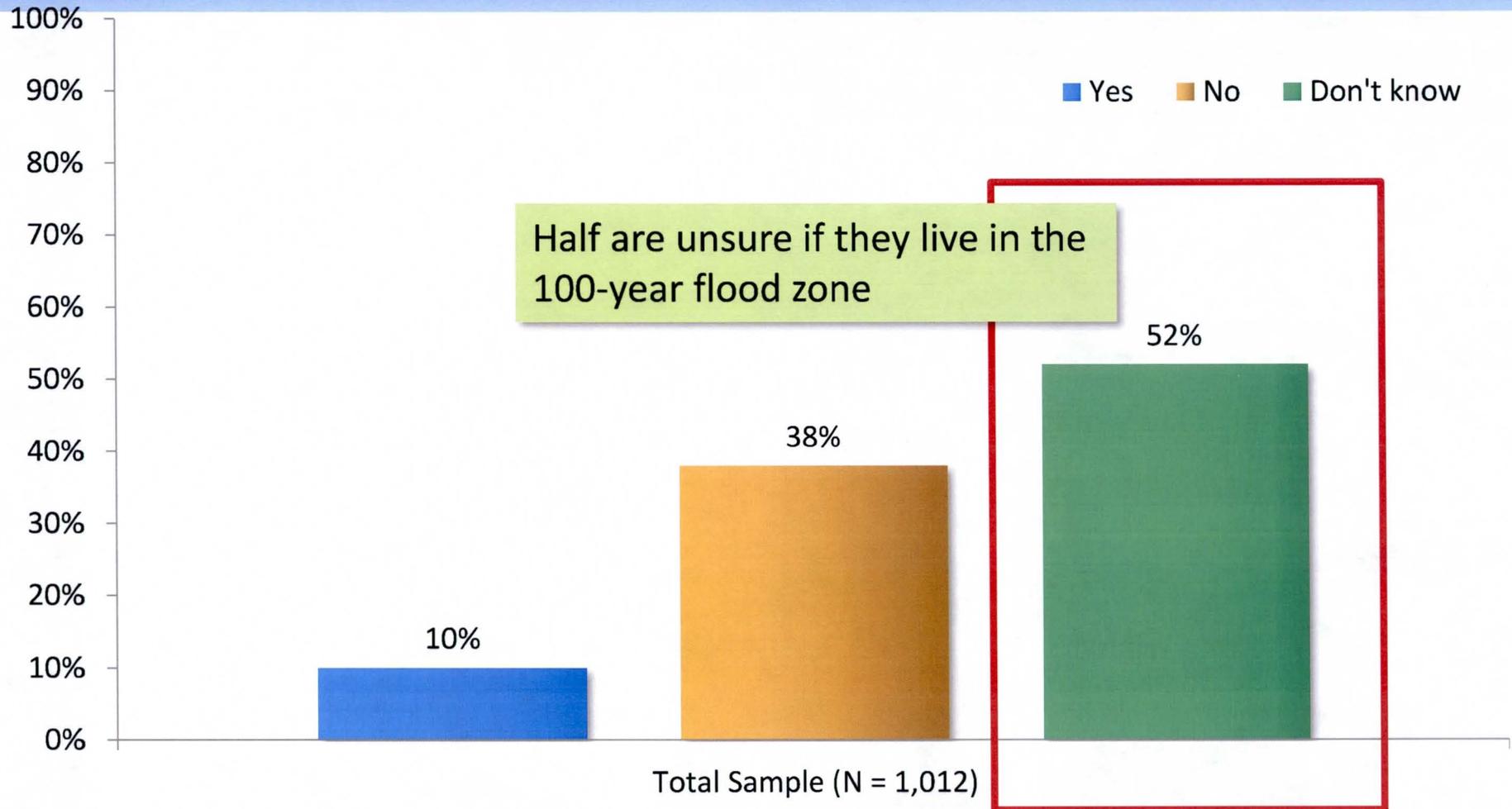
\*Note: Small Base Size

12. Which of the choices below best describes why you haven't taken action to prevent flooding or reduce the flood risk at your residence?





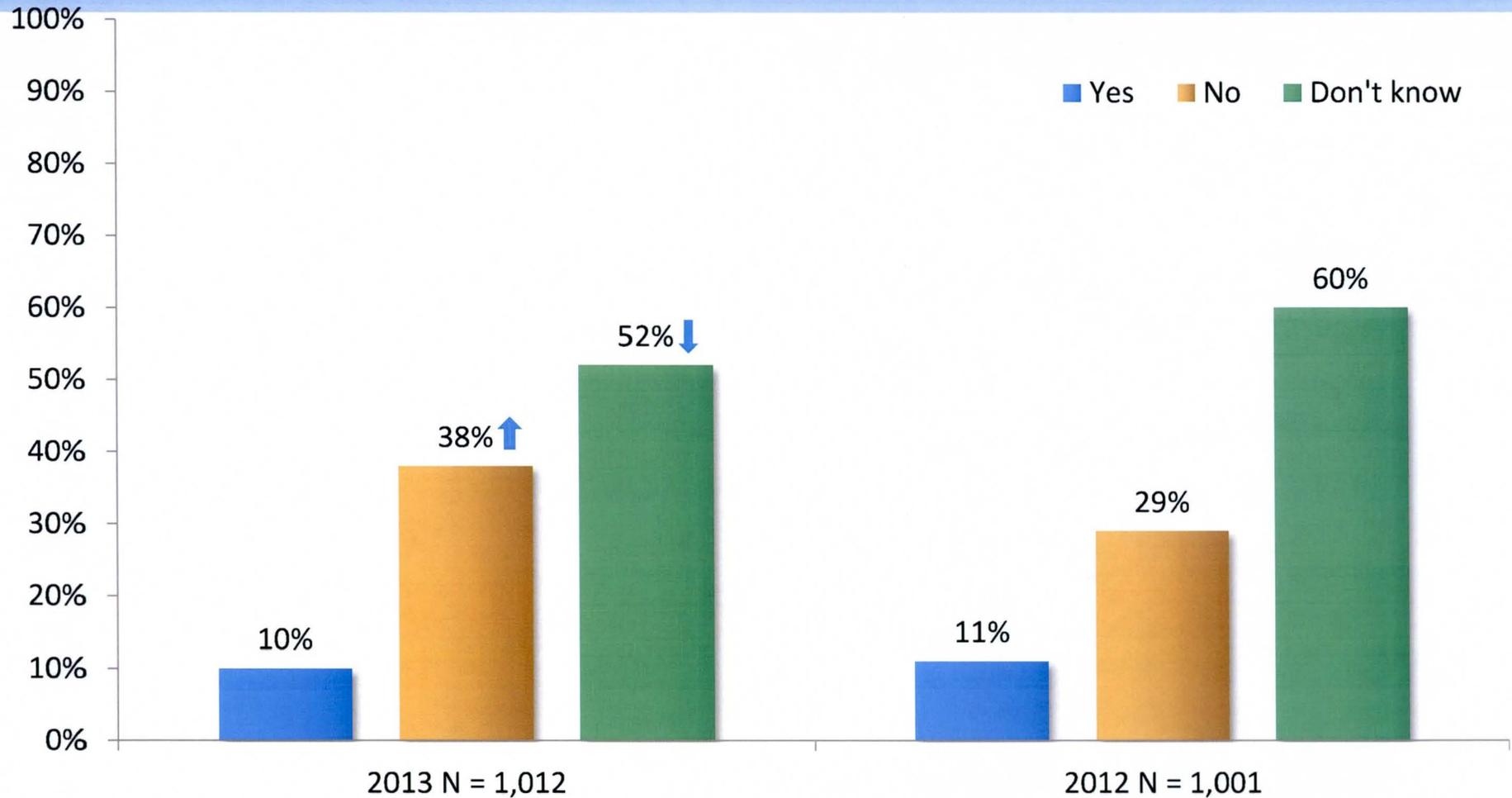
# Live in 100-Year Flood Zone



13. Do you live in a 100-year flood zone?



# Live in 100-Year Flood Zone

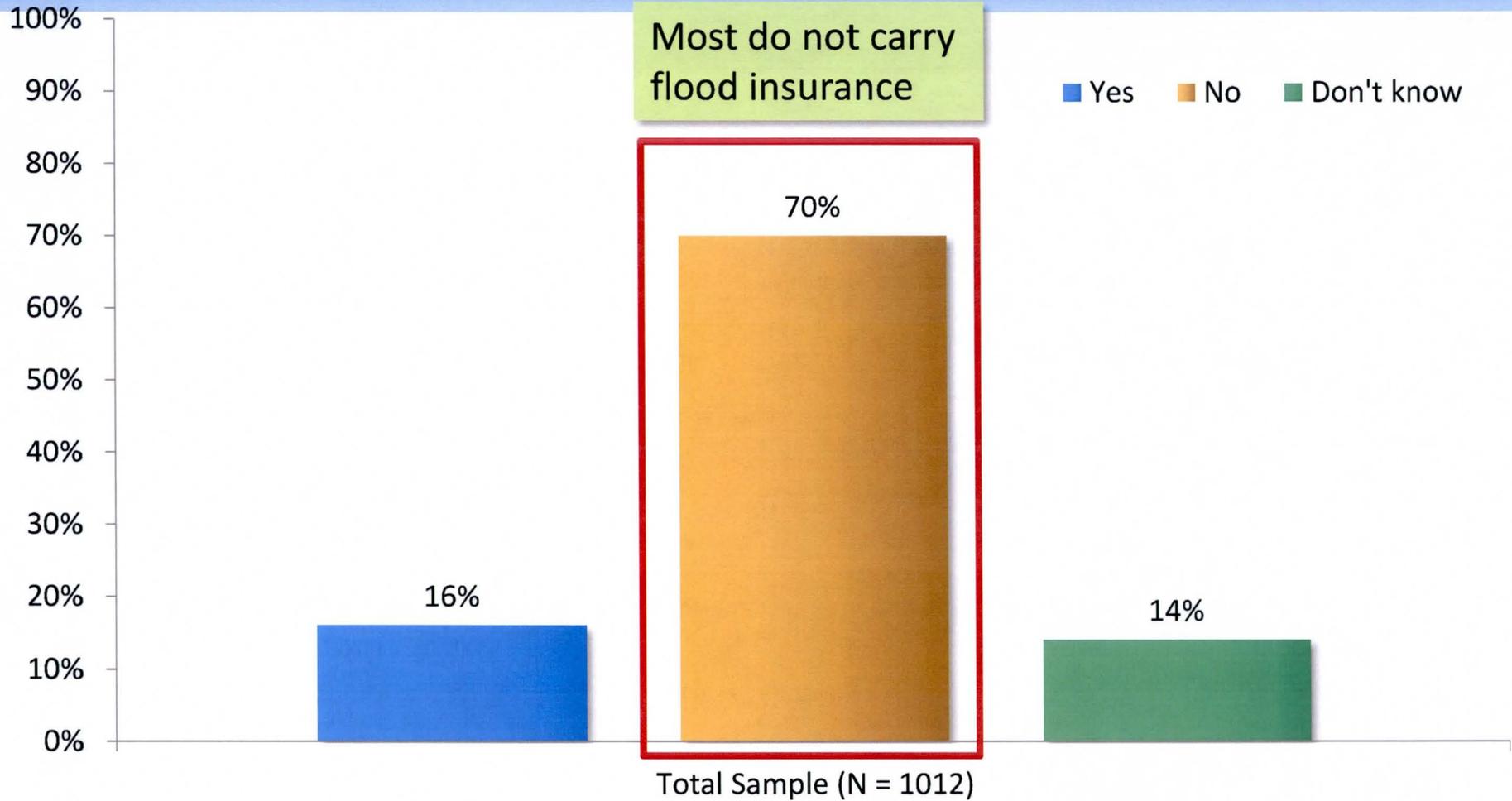


13. Do you live in a 100-year flood zone?





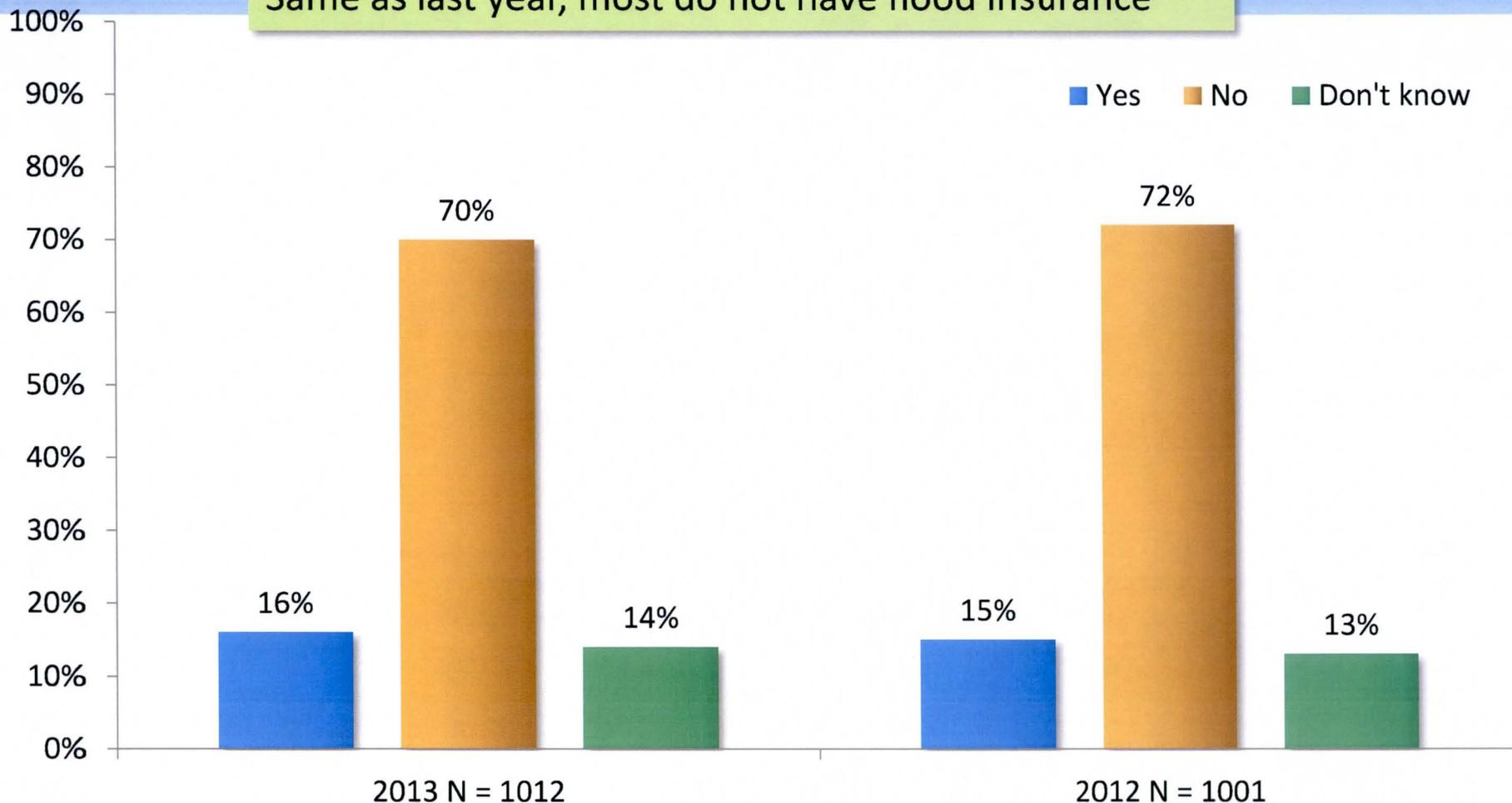
# Have Flood Insurance





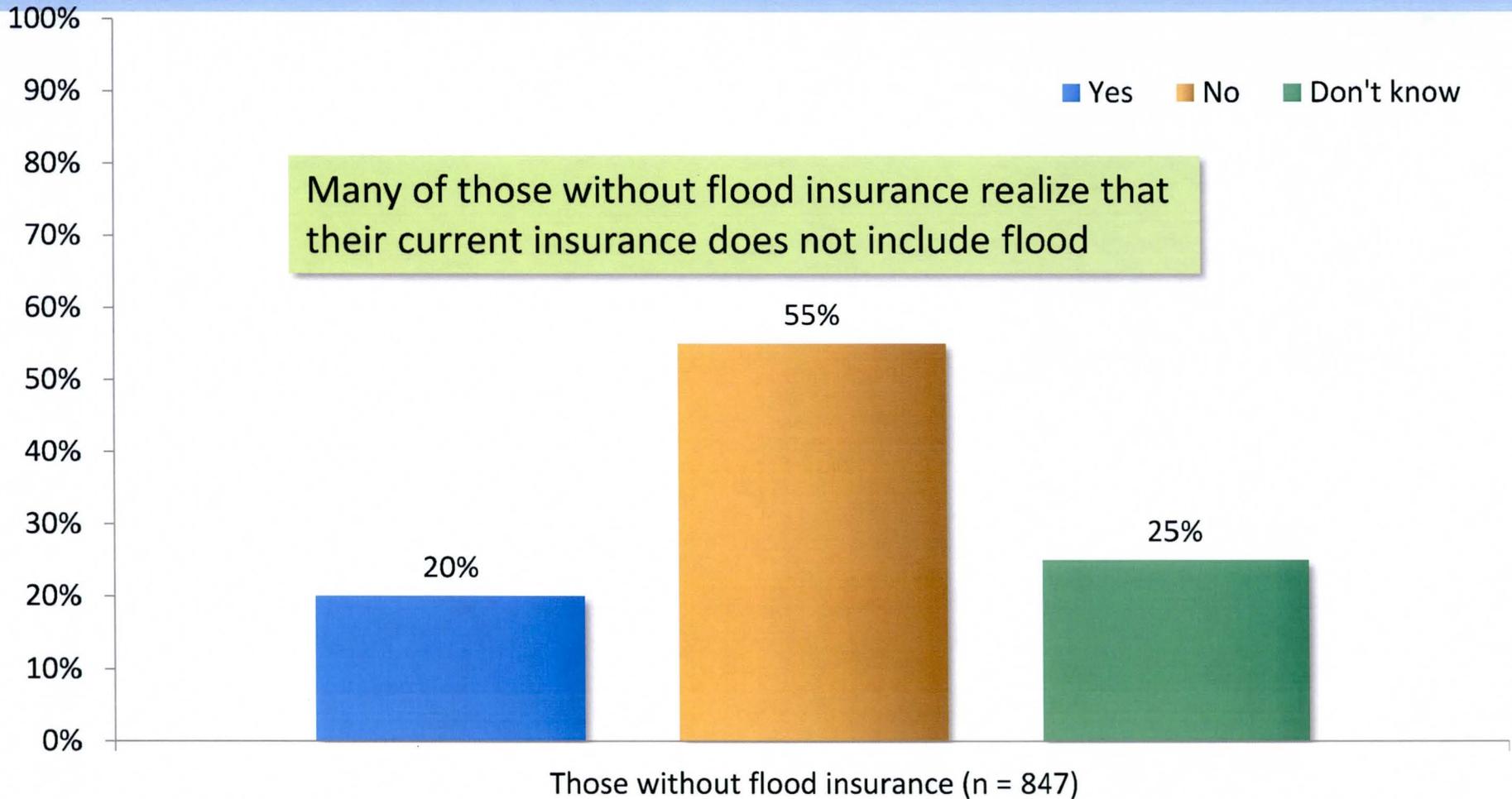
# Have Flood Insurance

Same as last year, most do not have flood insurance



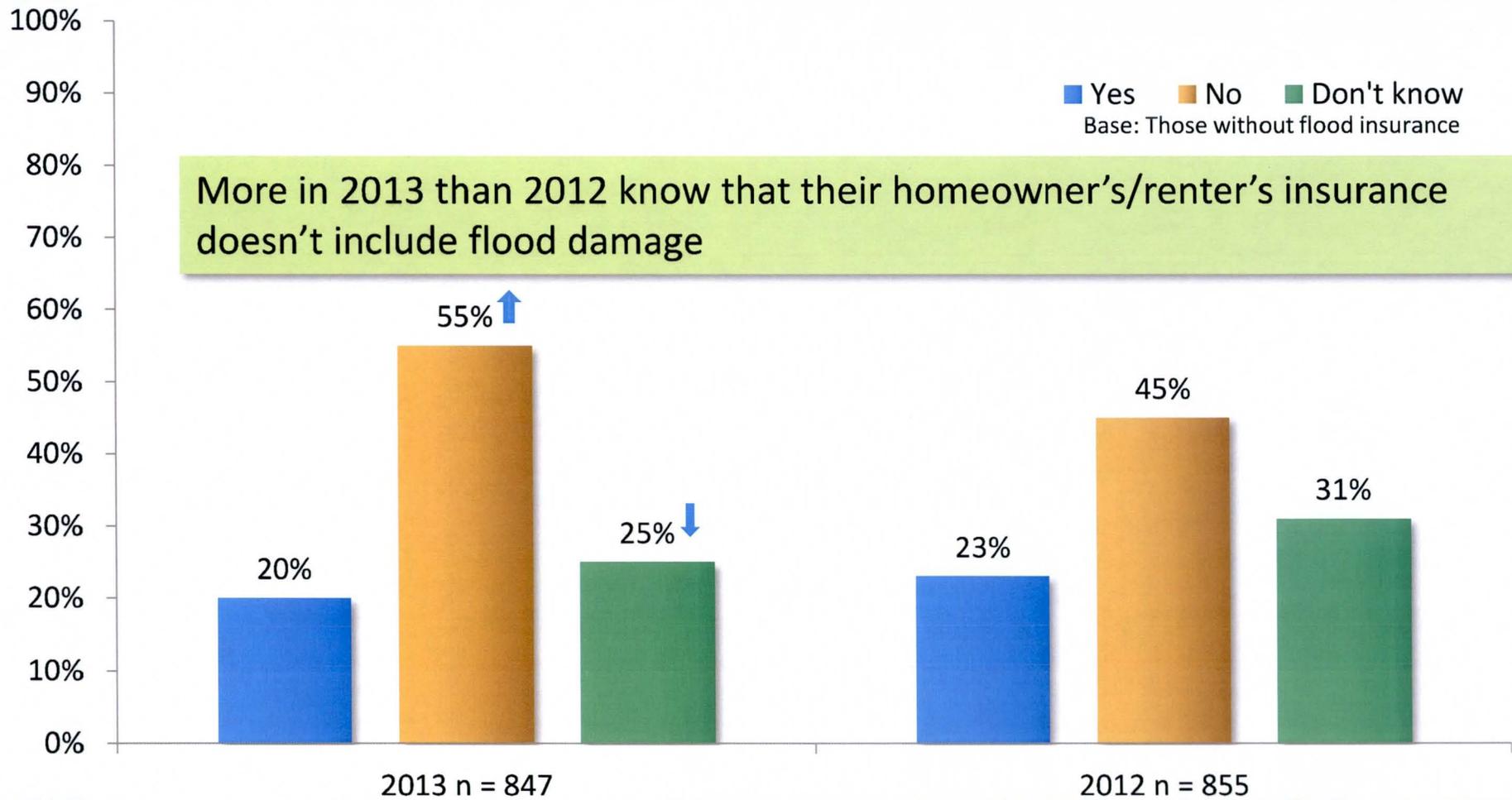


# Flood Damage Covered by Homeowner's or Renter's Insurance





# Flood Damage Covered by Homeowner's or Renter's Insurance



15. Do you believe that flood damage is covered by your homeowner's or renter's policy?





# Reasons for Not Having Flood Insurance

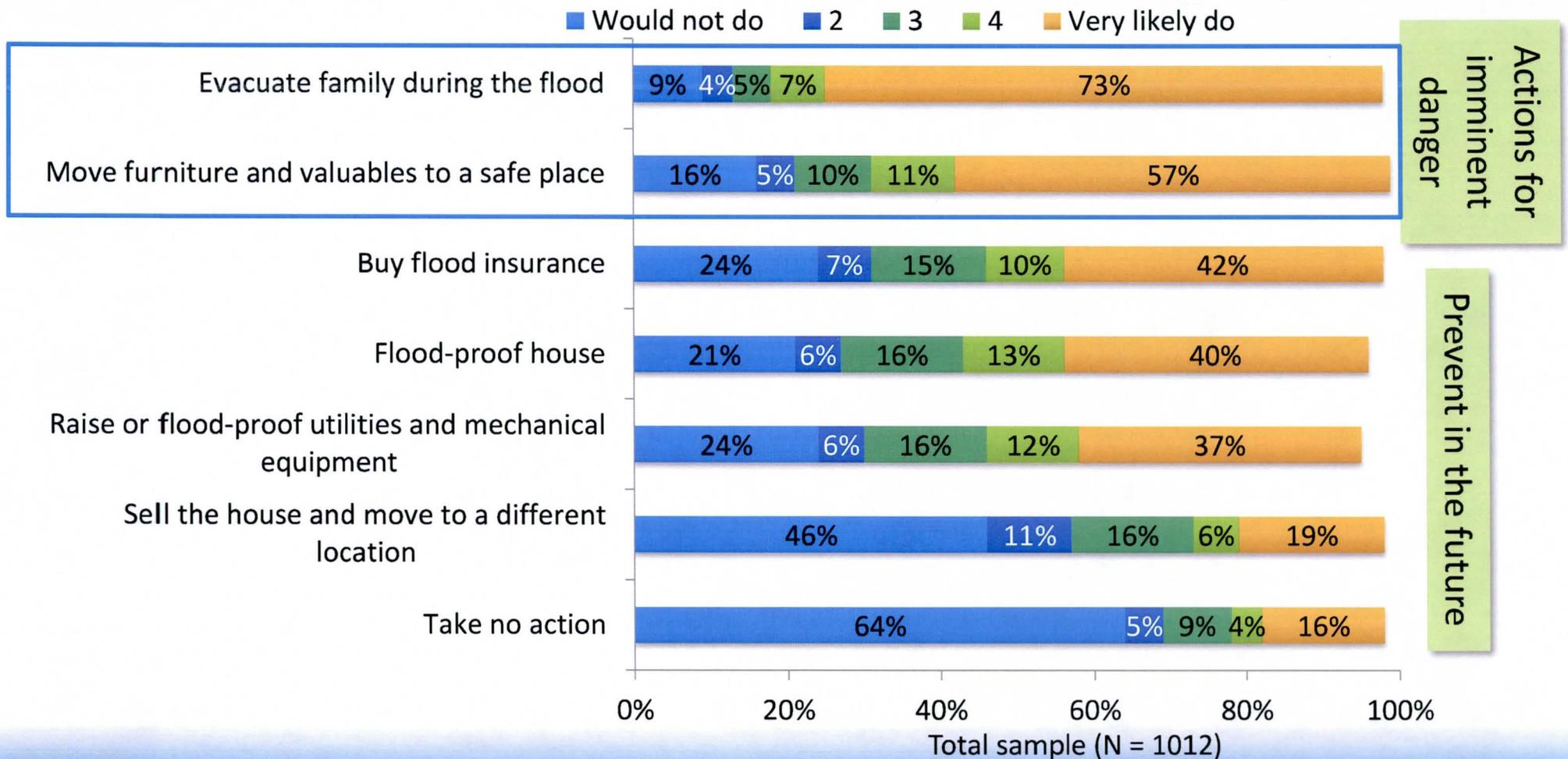
The primary reason for not having flood insurance is the belief that it is not going to flood where they reside

	%
Not at risk, do not believe will flood, don't need	53
Renter, rental property, not property owner	10
Raised property, elevated location	8
Costs	5
Have coverage	4
Not available, not offered	3
Not thought about it	3
Don't know	14
<b>Base: Those who do not have flood insurance</b>	<b>847</b>

*\*All other mentions made by fewer than 3%*



# Actions If House Was at Risk of Flooding

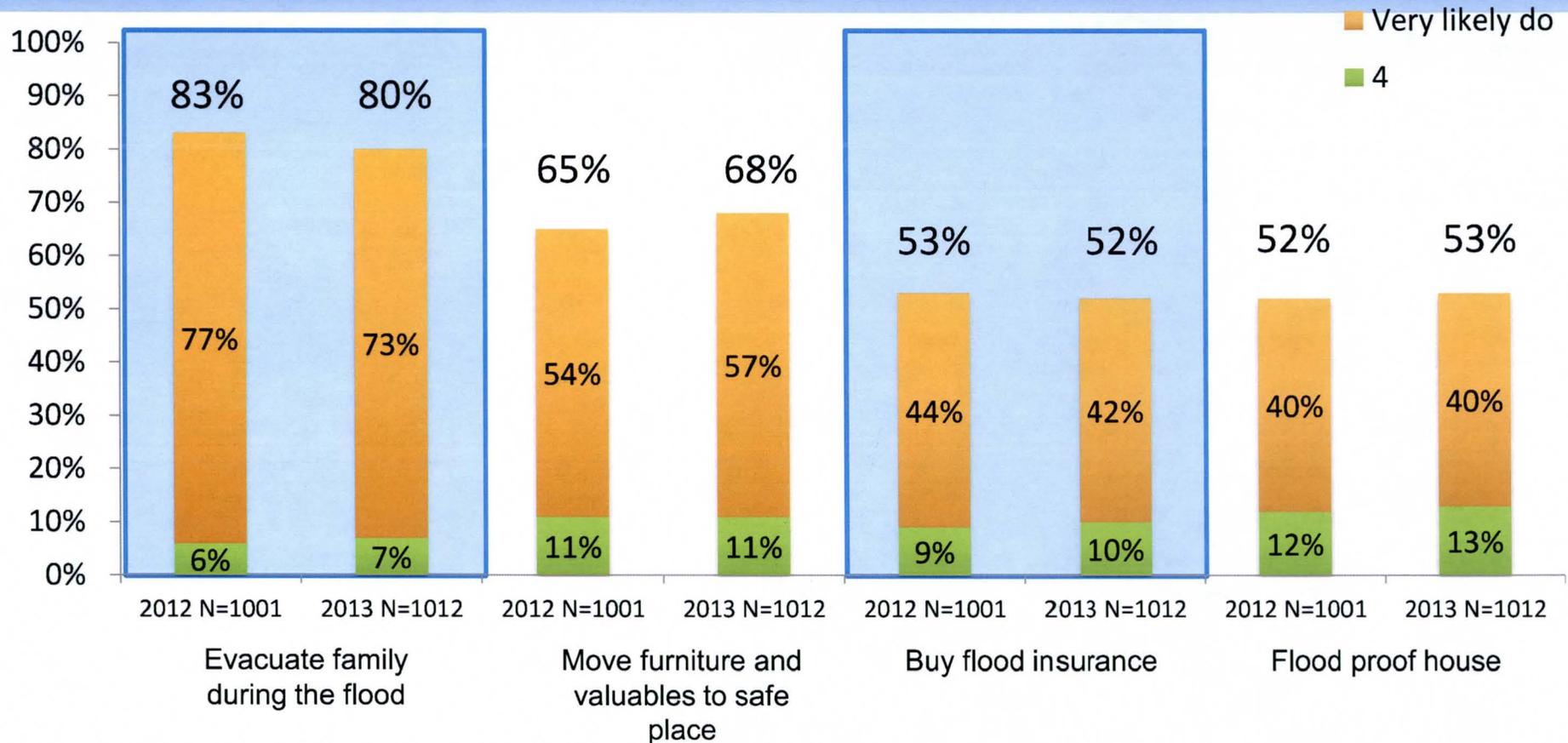


17. Using a scale of 1 to 5 please rate the following actions you would utilize if your house was at risk of flooding, where 5 signifies that this is an activity you are highly likely to do and 1 signifies that you wouldn't do this at all.





# Actions If House Was at Risk of Flooding



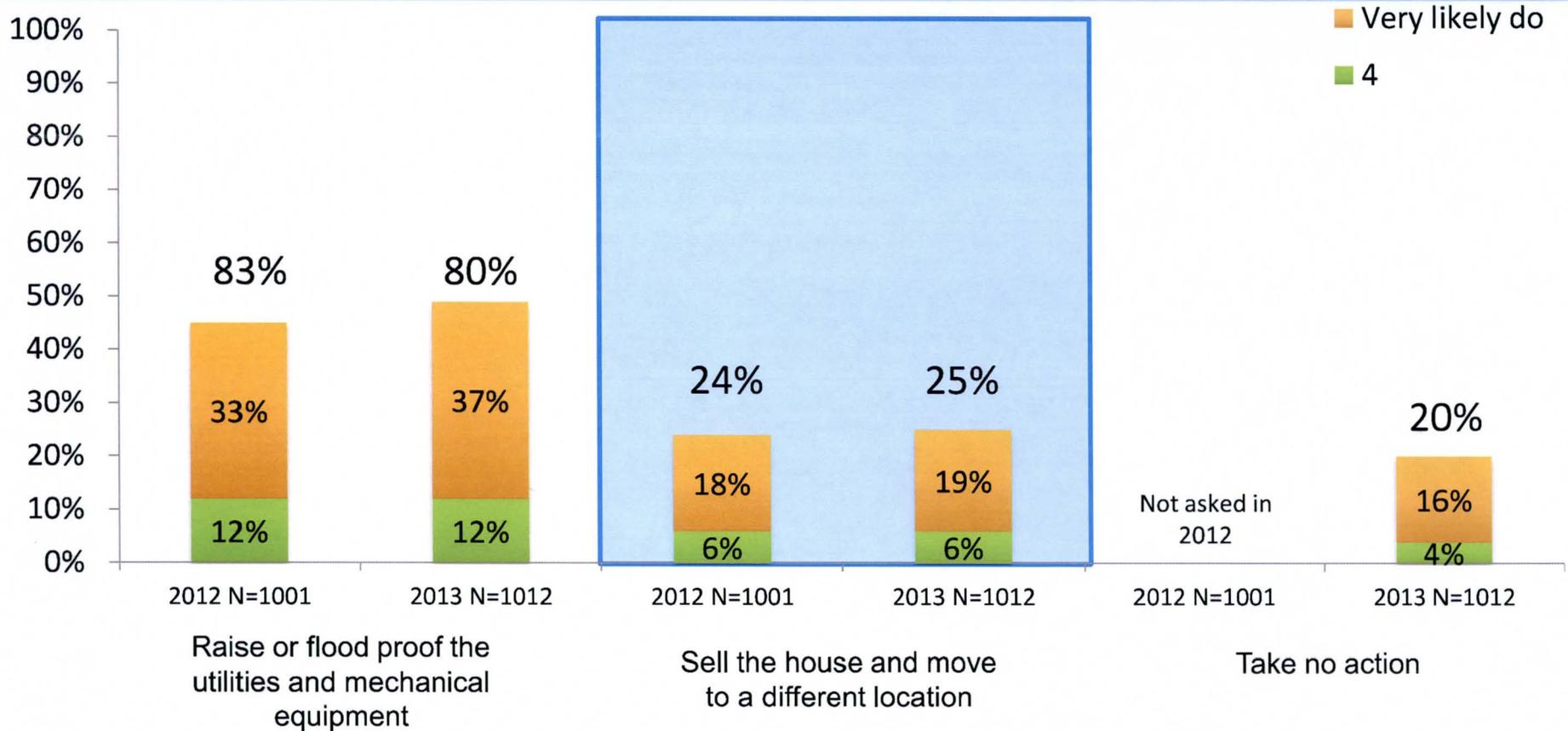
Buy flood insurance is the top prevention method

17. Using a scale of 1 to 5 please rate the following actions you would utilize if your house was at risk of flooding, where 5 signifies that this is an activity you are highly likely to do and 1 signifies that you wouldn't do this at all.





# Actions If House Was at Risk of Flooding



17. Using a scale of 1 to 5 please rate the following actions you would utilize if your house was at risk of flooding, where 5 signifies that this is an activity you are highly likely to do and 1 signifies that you wouldn't do this at all.





# Word Associations with 'Flood Control District of Maricopa County'

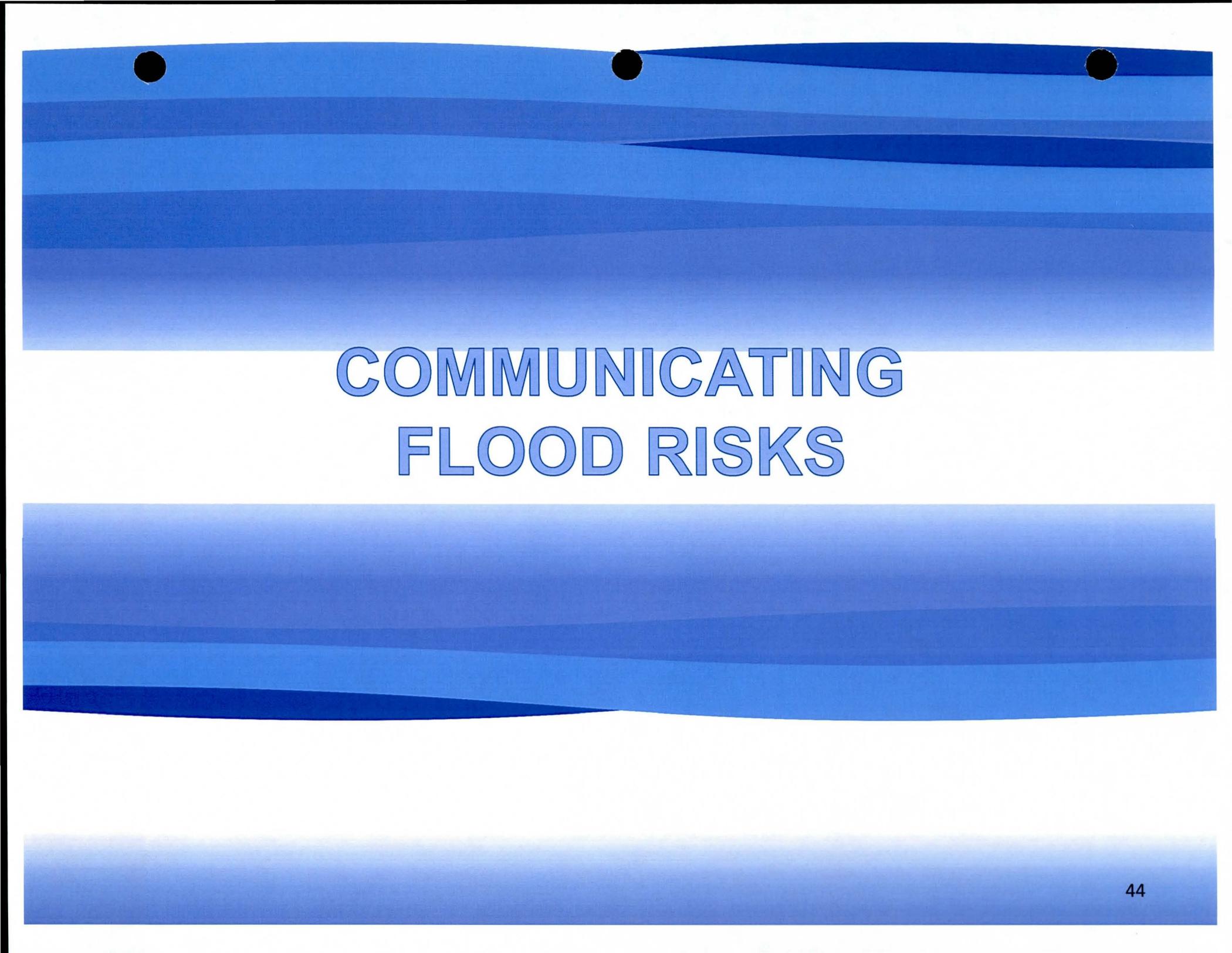
	%
Unknown, Not heard of, Not familiar	9
Safety, Security, Protection	7
Government, Bureaucracy, Politics	6
Bad, Ineffective, Not useful	4
Flood Control	4
Floods, Flash flooding	3
Good, Effective	3
Canals, Channels	3
Water, Rain	3
None/Don't know	21
<b>Base: Total Sample</b>	<b>1,012</b>

No clear cut perception of who FCDMC is; other than government entity that handles flooding/rain

*\*All other mentions made by fewer than 3%*

18. What is the first word that comes to mind when I say "Flood Control District of Maricopa County?"

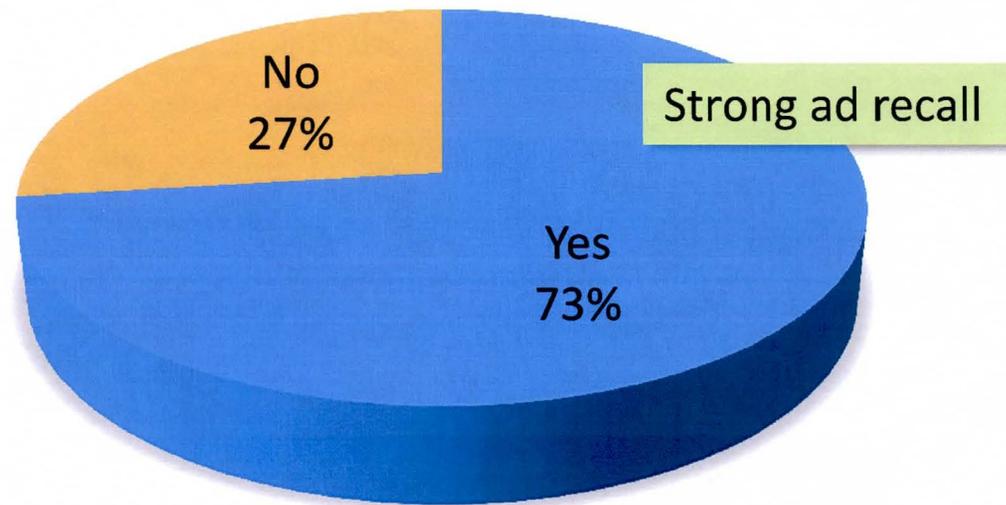




# COMMUNICATING FLOOD RISKS



# Recall Seeing Ads Showing Vehicle that Drove in Flooded Street/Wash



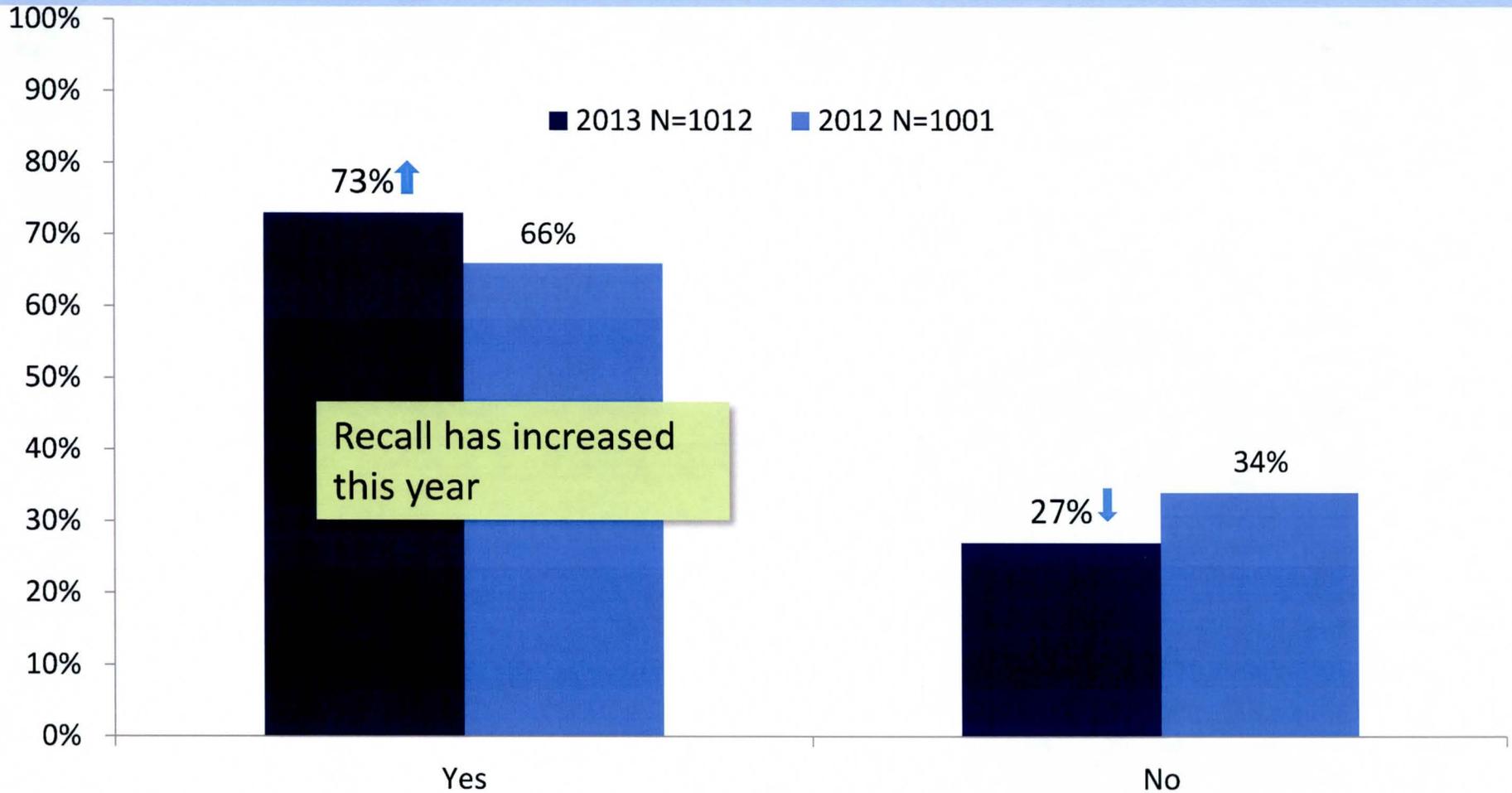
Total Sample (N = 1012)

19. Do you recall seeing advertisements showing a vehicle that has been driven into a flooded street or wash?





# Recall Seeing Ads Showing Vehicle that Drove in Flooded Street/Wash

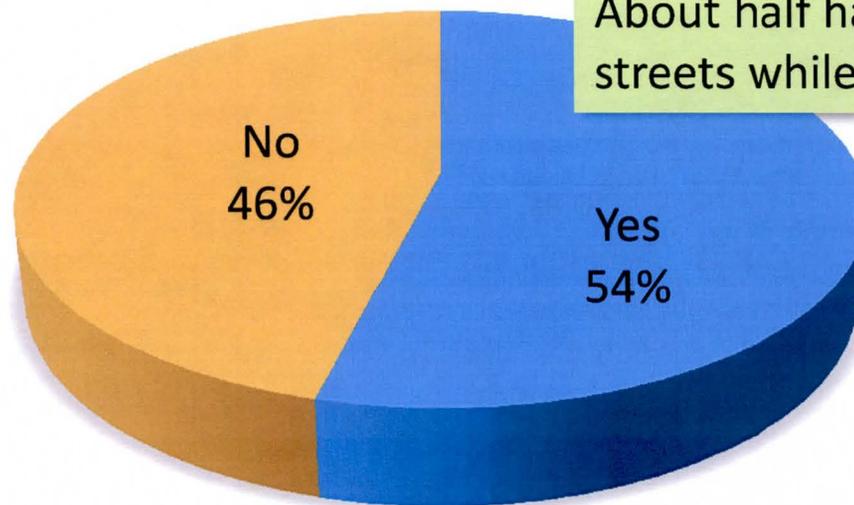


19. Do you recall seeing advertisements showing a vehicle that has been driven into a flooded street or wash?





# Encountered Flooded Street/Was in a Vehicle?



Total Sample (N = 1,012)



# Action Taken by Driver While in Flooded Street/Wash

And when faced with flooded street, most turned around

	%
★ Turned around and took an alternative route	74
Drove through and made it	17
Waited for the flood waters to recede and then drove through	5
Drove through it and got stuck	2
Don't remember	1
<b>Base: Those who have been in flooded street/wash while in vehicle</b>	<b>549</b>

*\*All other mentions made by fewer 3%*



21. Which of the following statements best describes what you or the driver did when you came into a flooded street or wash?



# Why Drove through Flooded Street/Wash

For those who did drive into the flooded street, they did so because they thought it would be okay

	%
Didn't think it was unsafe to do so	44
I was in a hurry	14
Don't know/wasn't thinking	7
No alternative	7
Didn't know any better	6
Thought it would be fun	5
Could not see water	5
Had large, capable vehicle	4
<b>Base: Those who drove through flooded street/wash</b>	<b>107</b>

*\*All other mentions made by 3% or fewer*

22. Why did you drive through the flooded street or wash?





# How Learn about Flash Flood Dangers

Residents rely most on television/news reports for information about flash flood dangers

	%
News reports/television	82
Radio	30
Internet	25
Friends/relatives	17
Newspaper	16
Billboards	8
School	4
Phone/text alert	4
Flood Control District of Maricopa County web site	4
<b>Base: Total Sample</b>	<b>1,012</b>

*\*All other mentions made by 2% or fewer*

23. From which of the following sources do you learn about the dangers of flash flooding?





# Dangers of Flash Flooding Message Recall

The top message they retain across medium is to 'stay out of flood waters'

	Television %	Radio %	Friends/ Relatives %	Internet %	Newspaper %
Stay out of flood waters, Don't try it	36	34	36	19	29
Warning, Possible flooding, Flooding alert	23	38	16	23	11
Charge people for rescue/Stupid Motorist Law	11	6	2	3	6
People stranded in waters, Vehicles floating	10	2	6	10	14
Dangerous to drive in flood waters	7	4	5	4	6
Base: Those who learn about dangers of flash flooding from above medium	832	301	177	257	159

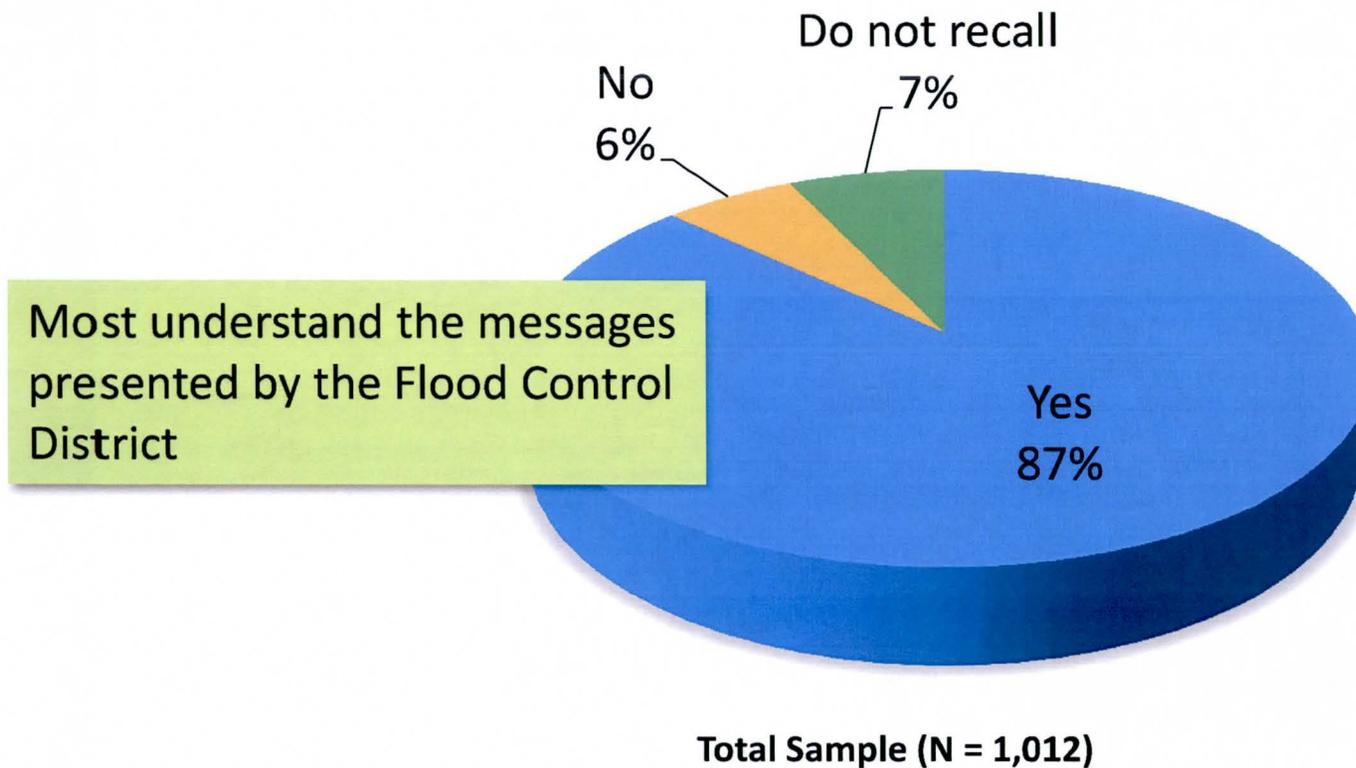
*\*All other media were mentioned by 8% or fewer of Total Sample. Thirty-eight (38) people mentioned the Flood Control District's website.*

24. What was the message you recall seeing/hearing on the dangers of flash flooding from ...?





# Are Flooding Messages Understandable?





# What Made the Messages Difficult to Understand?

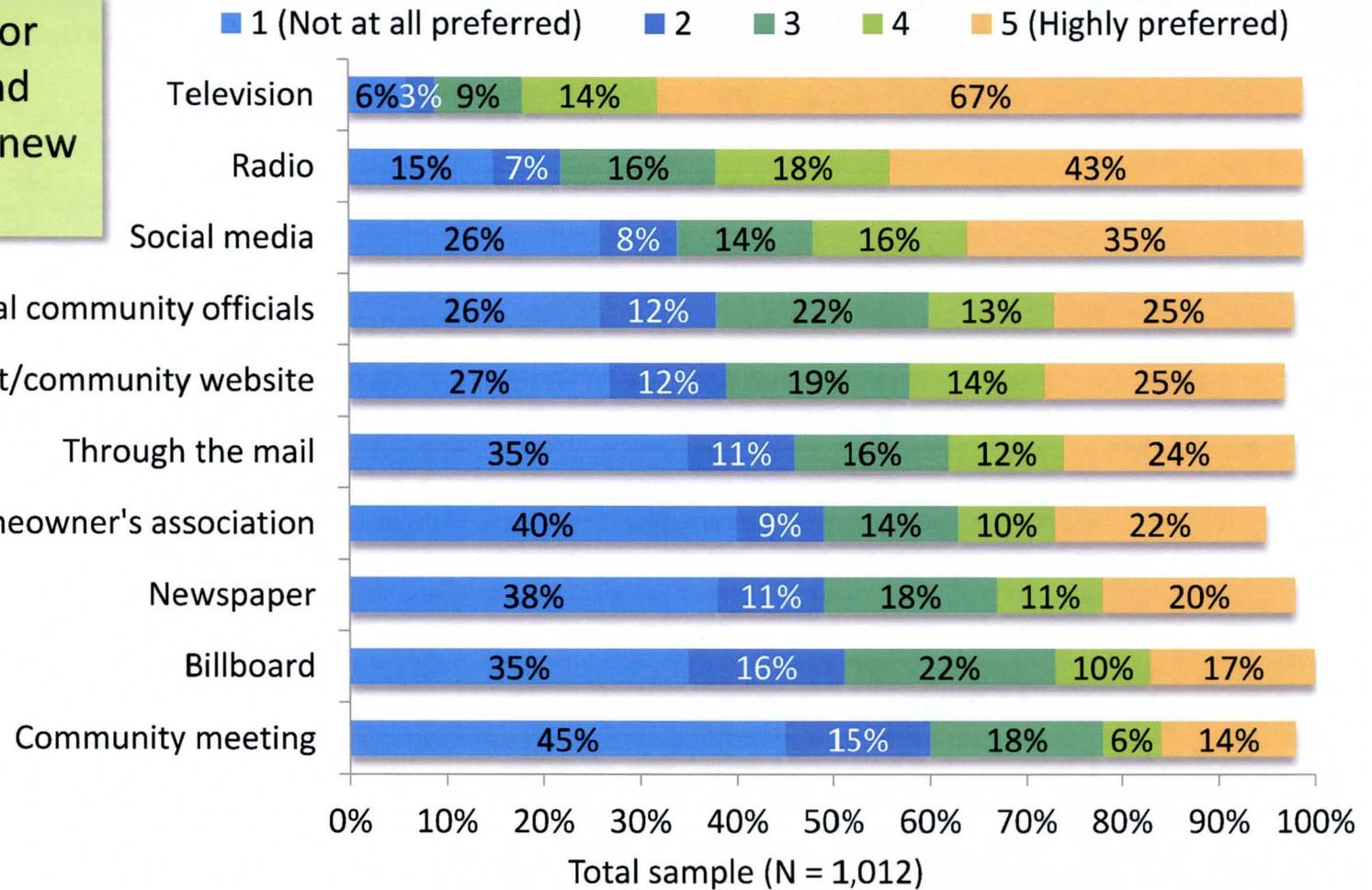
Residents that said they do not understand the messages did not give real reasons for not understanding the messages that the FCDMC can address

	%
Have not seen any, not attended any FCD events	24
Was not paying attention, did not listen	4
Not familiar with flooding, not knowledgeable	2
Don't know areas where flooding occurs	1
Nothing	48
Don't know/Don't remember	17
<b>Base: Those who did not indicate the Flood Control District's media messages were understandable</b>	<b>130</b>



# Preferred Way to Be Informed of Flood Risk

Preferences are for traditional (TV and radio) and some new (social media)

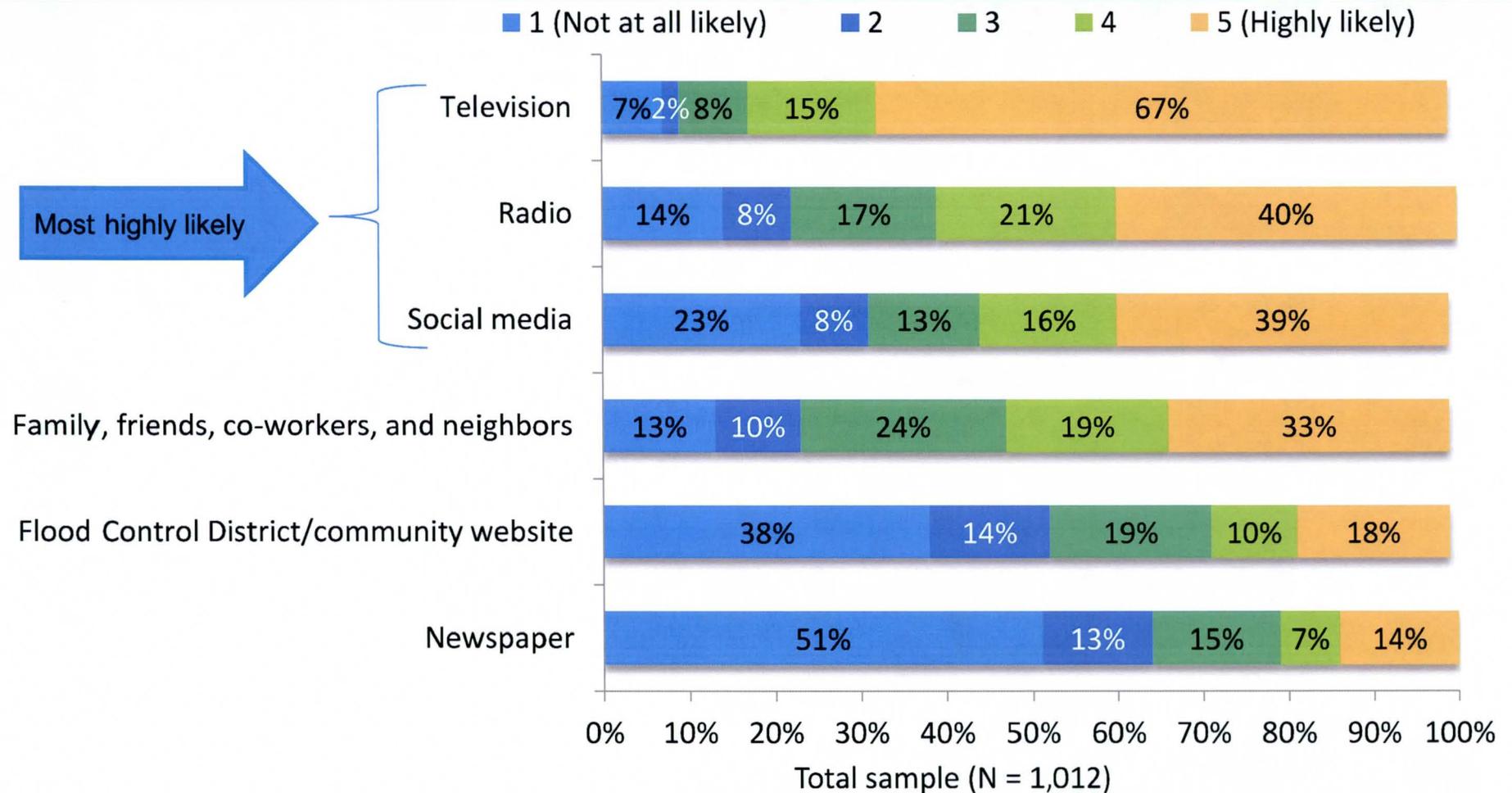


26. How would you rate your preference for being informed by (\_\_\_\_)? Scale: 1: Not at all preferred; 5: Highly preferred.





# Ways Likely to Obtain Information

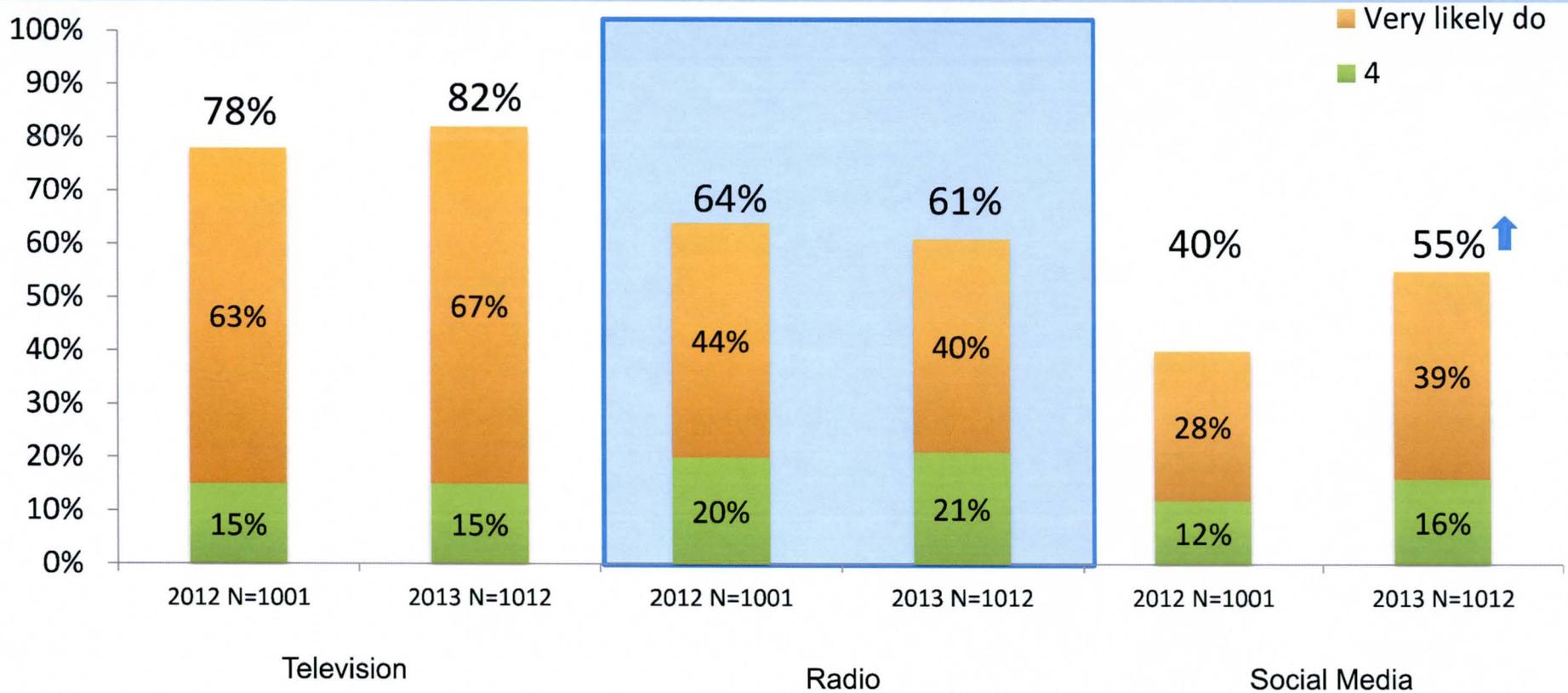


27. Please rate the following ways that you are likely to obtain information about flooding during heavy storm events. Scale: 1: Not at all likely; 5: Highly likely.





# Ways Likely to Obtain Information



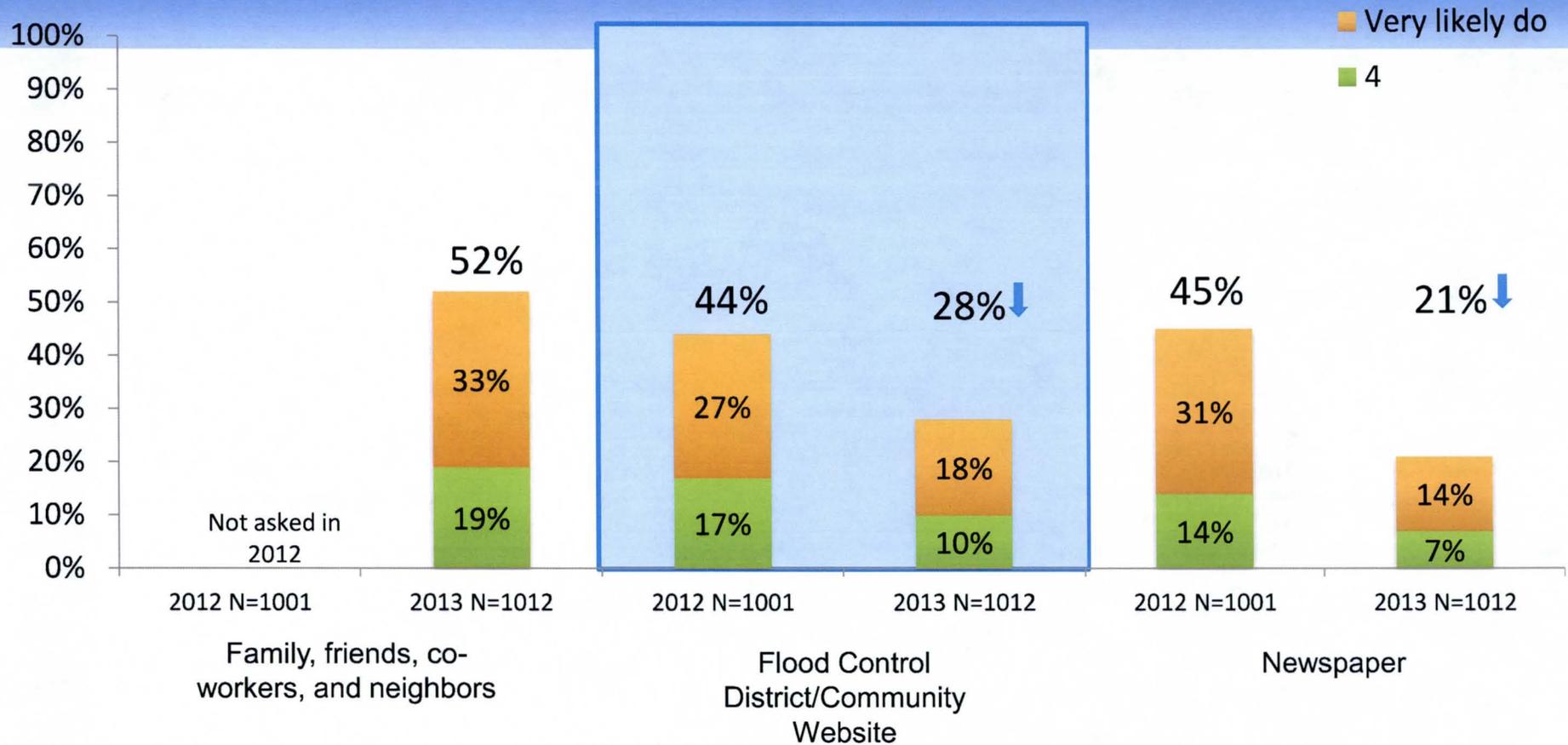
More are likely to use social media to obtain information about flooding during a storm

27. Please rate the following ways that you are likely to obtain information about flooding during heavy storm events. Scale: 1: Not at all likely; 5: Highly likely.





# Ways Likely to Obtain Information



Fewer are likely to turn newspapers and the FCDMC website for information about flooding during a storm

27. Please rate the following ways that you are likely to obtain information about flooding during heavy storm events. Scale: 1: Not at all likely; 5: Highly likely.





# Ways to Help Residents Better Understand Flood Risks?

	%
Send information through mail (utility bill, general mailing)	12
Provide information on television	8
More information/more messages	7
Provide information about risks and options	6
Provide website information	5
Provide maps/show flood areas	5
Provide information through flyers, pamphlets, brochures	4
Control/prevent flooding in the first place	3
Work through community organizations	3
Don't know	15
Nothing	23
<b>Base: Total Sample</b>	<b>1,012</b>

Want multiple information sources and types

*\*All other mentions made by 2% or fewer*

28. What could the Flood Control District do to help you better understand your risk of flooding, inform you of ways to protect your home and family, or protect your residence from flooding?

