

# ADAPTION RESPONSE

## TO RECURRENT FLOODING

### Portsmouth Comprehensive Planning Support REPORT 2



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# Portsmouth Report 2

Final Report with Revisions in Response to Comments

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## **PART 1 - Executive Summary**

This Report 2 is part of two reports prepared in response to a request from the City of Portsmouth to generate knowledge relating to both the perceptions and the experiences of citizens relating to recurrent flooding. In particular, this Report 2 is intended to provide insights into the storm-related vulnerabilities of Portsmouth citizens, with special attention towards medically fragile populations.

The analyses contained within this report are derived from a random sampling of 353 Portsmouth households following Hurricane Irene. The data described within this report covers three broad areas: 1) information was gathered on the perceptions and behaviors of these households in anticipation of and in response to the Hurricane Irene event, 2) information was gathered to gauge the vulnerabilities of these households, and 3) information was gathered on the household's exposure and loss stemming from Hurricane Isabel. The sampled households have been geocoded to the nearest self-reported residential cross street. Derived from this spatial information, this report includes heat maps illustrating the intensity of vulnerability

The concept of vulnerability addressed in this report is largely centered on the ability of a household to respond to and cope with an altered environment resulting from a severe storm event. This understanding of vulnerability is necessarily broad and encompasses perceptions of risk, attitudes formed by past exposure and loss, social and financial networks, literacy, and medical fragility. These household characteristics provide the context, and shape the ability, within which vulnerability plays out over the days, months, and years following the actual event as the individual struggles to reestablish normalcy or, at least, to achieve a new normalcy that provides a sense of security and stability. Many of the variables presented in this study are understood, both theoretically and as evidenced in practice, to either frustrate or facilitate one's ability to comprehend, prepare for, weather, and recover from a severe storm event.

In particular, this Report contains information relating to the medical fragility of residents, especially those needing assistance with activities of daily living. Chronic medical conditions, mobility issues, and cognitive impairments are more prevalent in aged and low-to-modest income populations. The elderly and medically fragile populations often exhibit reduced health status and heightened dependence that may limit the ability to prepare for and respond to severe storm events.

Part 1 of this report provides an executive summary. Part 2 provides a succinct summary of key findings for major variables. Part 3 presents the methodology. Part 4 presents charts, tables, analyses, and vulnerability heat maps for selected variables.

## **PART 2 - Key Findings**

These key findings represent a sampling of Portsmouth households that experienced Hurricane Irene. That is, only households that experienced Irene were part of the survey. In addition, among these households, the survey identified households that also experienced Hurricane Isabel. The data gathered specific to Isabel is identified in the heading.

### **Neighborhood Likely to Flood**

Households were asked to report their level of agreement with the statement that their neighborhood is likely to flood during a big storm.

- Nearly 37 percent of households agree that their neighborhood is likely to flood during a big storm. This suggests that the risk perception of neighborhood flooding due to large rain events concerns a sizable portion of the households.
- Roughly 60 percent of households within the AE Flood Zone agree that their neighborhood is likely to flood during a big storm. This suggests that the perceived risk of neighborhood flooding due to a large rain event is greater for those living within an AE Flood Zone relative those residing outside the zone.
- Approximately 43 percent of households living within low-to-moderate income block groups agree that their neighborhood is likely to flood during a big storm. This suggests that living within a low-to-moderate income block group may have some impact on perceived risk of neighborhood flooding due to a large rain event relative those residing outside of these block groups.
- Low income households (<35K annual household income) are more likely (over 49 percent) than any other income category is agree that their neighborhood is likely to flood during a big storm.

### **Household Suffered Loss**

Households were asked several question related to the types of loss that the household may have suffered from Hurricane Irene.

- Approximately 32 percent report that they suffered some form of loss.
- Those households within AE flood zones are more likely to report loss.
- Households that are proximate to a coastline report suffering a loss at rates similar to households that do not live proximate to a coastline (ranging from 30 to 34 percent); this suggests that water-induced loss is not confined to proximity to coastline and that prevalence of loss is systemic across the City independent of proximity.

## Household Loss Pay

Households were asked whether or not they lost pay during Hurricane Irene.

- Over 10 percent of households report that they lost pay, while nearly 90 percent report that they didn't loss pay.
- Households within low-to-moderate income areas are more likely (12.5 percent) to report loss relative those not within LMI areas.

## Household Lost Sick Time

Households were asked whether or not they lost sick time, sick days, or vacation time due to Hurricane Irene.

- Those household within the high income group (> 106k annual household income) are more likely to report lost sick time, sic days, or vacation time relative to the other income groups.

## Household Lost Money or Incurred Financial Hardship

Households were asked whether or not they lost money or incurred financial hardship from Hurricane Irene.

- Those within AE flood zones are more likely to report financial hardship relative those not within an AE flood zone.

## Stay or Depart

Households were asked whether or not they departed Hampton Roads in anticipation of a storm.

- Approximately 5.6 percent of households report that they departed Hampton Roads, while about 94 percent report that they didn't depart Hampton Roads. The average percent of households that departed the region in anticipation of this event was 8.47 percent, suggesting that the portion of departing Portsmouth households is nearly 2.8 percent less than the average. Among Portsmouth's closest neighbors, there is variation in departure rates, yet Portsmouth holds the lowest departure rate: Norfolk 9.1 percent, Chesapeake 6.5 percent, Newport News 7.1 percent, Hampton 11.6 percent, Virginia Beach 8.3 percent.

## Household Owns a Generator

Households were asked whether or not they own a generator.

- About 26 percent of households report owning a generator.
- Those residing in an AE flood zone are more likely (30.7 percent) to own a generator relative those that do not live in such a zone.
- Those that reside proximate to the coastline are more likely (range 27 to 31 percent) to own a generator relative those that do not live in such a zone.
- Those households within a low-to-moderate income area are less likely (20 percent) to own a generator relative to those not located within an LMI area.
- Low income households (<35K annual household income) are less likely (13.1 percent) to own a generator relative to other income groups.

## Household Owns a First Aid Kit

Households were asked whether or not they own emergency first aid kits.

- About 82 percent of households report that they own emergency first aid kits.
- Those households within a low-to-moderate income area are less likely to own a first aid kit (74.5 percent) relative to those not located within an LMI area.
- Low income households (<35K annual household income) are least likely (69.3 percent) to own a first aid kit relative other income groups.

## Loss Week's Pay Means Difficulty

Households were asked whether or not a loss of a week's pay will result in difficulty making their rent or mortgage.

- Nearly 39 percent of households report that a loss of a week's pay will result in difficulty making their rent or mortgage.
- Those households within a low-to-moderate income area are more likely (42.4 percent) to have difficulty making rent or mortgage relative to those not located within an LMI area.
- Low income households (<35K annual household income) are most likely (52.6 percent) to have difficulty making rent or mortgage relative other income groups.

### Loss Month's Pay Means Difficulty

Households were asked whether or not a loss of a month's pay will result in difficulty making their rent or mortgage.

- Nearly 56 percent of households report that a loss of a month's pay will result in difficulty making their rent or mortgage.
- Those households within a low-to-moderate income area are more likely (60 percent) to have difficulty making rent or mortgage relative to those not located within an LMI area.
- Low income households (<35K annual household income) are most likely (63.2 percent) to have difficulty making rent or mortgage relative other income groups.

### Cash or Credit to Support Household

Households were asked whether or not, if required to evacuate Hampton Roads, they have enough cash or credit to support all household members for five days.

- Nearly 77 percent of households report that they have enough cash or credit to support the household for five days.
- Households within AE flood zones are less likely (69.2 percent) to report having enough cash or credit to support all household members for five days.
- Households within low-to-moderate income areas are less likely (62.1 percent) to report having enough cash or credit to support all household members for five days.
- Low income households (<35K annual household income) are least likely (51.3 percent) to report having enough cash or credit to support all household members for five days.

### Household Dollar Cost Impact

Households were asked to estimate the household dollar cost impact of Hurricane Irene.

- Roughly 30 percent of households report a dollar cost impact stemming from Irene of \$1,000 or more.
- Households within AE flood zones are more likely to report sizable losses relative households not within AE flood zones.

## Medical Vulnerability

Medical vulnerability may be related to a variety of medical conditions, medication, and access to equipment. Respondent households were queried about a variety of medical related issues within the home.

- 2.5 percent of households report having a member that requires equipment, such as a lift, to get into a car or van.
- 13.0 percent of households report at least one adult member who is 18 years or older and has a hearing disability.
- 10.2 percent of households report at least one adult member who is 18 years or older and has a sight disability that interferes with normal daily activities.
- 2.2 percent of households report at least one adult member who is 18 years or older and has a cognitive disability.
- .85 percent of households report at least one severely disabled or handicapped child.
- 56.3 percent of households report at least member who is being treated for heart disease, hypertension, or high blood pressure.
- 29.4 percent of households report at least member who is diabetic.
- 4.8 percent of households report at least member who is being treated for dialysis, chemotherapy, or something similar that requires regular medical treatment.
- 14.5 percent of households report at least member who has ongoing appointments with a pain management doctor.
- 13.9 percent of households report at least member who is taking prescription medication for a psychiatric condition.
- 13.6 percent of households report that they use electronic medical equipment that would be disrupted with the loss of electricity for several days.

## Strong Family Network

Households were asked, on a scale of totally agree, agree, disagree, or totally disagree, whether or not they have a strong network of family members living in the area. Families are theorized to be central to assessment and decision making when faced with an imminent storm. The strength of these ties may facilitate responding to the storm event.

- Households within AE flood zones are less likely relative households outside the AE flood zones to strongly agree that the household has a strong network of family members living in the area, 32 percent and 35.5 percent respectively.
- Households within a low-to-moderate income area are less likely relative households not within low-to-moderate income area to strongly agree that the household has a strong network, 29.7 percent and 37.8 percent respectively.
- Households reporting higher annual family income are more likely (approximately 50 percent) to also report having strong family ties relative those households that report less annual income.

## Strong Friend Network

Households were asked, on a scale of totally agree, agree, disagree, or totally disagree, whether or not they have a strong network of friends living in the area. Often, networks may be instrumental in an individual or family's ability to gather and assess information, prepare for, weather, and recover from an event.

- Households within AE flood zones are less likely (30.7 percent) to strongly agree that the household has a strong network of friends living in the area.
- Households within a low-to-moderate income area are less likely (30.9 percent) to strongly agree that the household has a strong network of friends living in the area.
- Low income households (<35K annual household income) are least likely (27.0 percent) to strongly agree that the household has a strong network of friends living in the area.

## Know Neighbors

Households were asked to report whether or not they know the name(s) of most, some, or none of their neighbors. Similar to the two above questions, this question taps the concept of a household's connection with a network of proximate neighbors who, theoretically, may be able to pool information, efforts, and resources in anticipation of a severe weather event.

- Over 48 percent know most, just under 57 percent know some, and approximately 5 percent know none of the names of their neighbors.
- Households within AE flood zones are more likely (61.5 percent) to know the names of most of the neighbors.
- Households within a low-to-moderate income area are more likely (52.1 percent) to know the names of most of the neighbors.

## Not Much to Prepare For

Households were asked, on a scale of totally agree, agree, disagree, or totally disagree, whether or not they agree with the statement, "There is not much you can do to prepare for a storm; either you are lucky or unlucky."

- Over 7 percent strongly agree and over 25 percent agree that there is not much you can do to prepare for a storm; either you are lucky or unlucky.
- Households with a AE flood zone are twice as likely to either strongly agree (16.6 percent) or agree (45.8 percent), relative those households not within a AE flood zone, that there is not much you can do to prepare for a storm; either you are lucky or unlucky.
- Households with low-to-moderate income areas are more likely to either strongly agree (11 percent) or agree (33.9 percent), relative those households not within with low-to-moderate income areas, that there is not much you can do to prepare for a storm; either you are lucky or unlucky.

## Hurricane Likely within 5 Years

Households were asked, on a scale of totally agree, agree, disagree, or totally disagree, whether or not they agree with the statement, “it is very likely that a powerful hurricane will directly hit the area in the next five years.”

- Nearly 16 percent strongly agree and over 60 percent agree it is very likely that a powerful hurricane will directly hit the area in the next five years.
- Households that do not reside on low-to-moderate income areas are more likely to agree (62.7 percent) and strongly agree (16.3 percent) it is very likely that a powerful hurricane will directly hit the area in the next five years.
- Households within the high income group are more likely than any other income group to either agree (69.2 percent) or strongly agree (17.9 percent) that it is very likely that a powerful hurricane will directly hit the area in the next five years.

## Theft from Home

Households were asked to report the likelihood that their home will have things stolen from it if they evacuate.

- Overall, roughly 42 percent of households perceive theft of property to be either likely (23.3 percent) or very likely (18.3 percent).
- Households within low-to-moderate income areas are more likely (24.5 percent) to state it is very likely relative households not in low-to-moderate income areas.
- Low income households (<35K annual household income) and lower moderate income households (36-55K annual household income) are more likely (20.2 percent and 22.5 percent, respectively) relative other income groups to report theft being very likely.

## Stayed to Take Care of Somebody Else

Households were asked if any household member stayed in the area (rather than evacuate) during Hurricane Irene specifically to take care of someone else who didn't want to or couldn't leave the area.

- Approximately 14 percent of the households report that taking care of this other person was a reason for not departing the region.

## Relationship to the Person Who Needed Care

Among those who stayed due to such care-arrangements, respondents were queried about the relationship to that person who needed the care.

- Nearly 60 percent are family members, but not living immediately in the same home, while over 21 percent were family members within the same household.

## Stayed to be Near Family Physician

Households were asked if any household member stayed in the region (rather than evacuate) for Hurricane Irene in part to be close to a personal physician.

- Approximately 8 percent of households report having a member who stayed in part to be close to a personal physician.

## Household Owns Pet or Animal

Households were asked if they owned any pets or animals.

- Nearly 45 percent of households report owning a pet or animal.
- Households within AE flood zones are more likely (65.3 percent) to own a pet or animal, as are those that live within 100 meters of the coastline (58.3 percent).
- Those households within low-to-moderate income areas are less likely (34.9 percent) to own a pet or animal.
- Low income households (<35K annual household income) are least likely (35.7 percent) to own a pet or animal relative the other income groups.

## Pet or Animal Reason for Not Leaving

Households owning pets or animals were asked owing this pet or animal was one of the reasons that the household did not leave the region in anticipation of Hurricane Irene.

- Approximately 35 percent reported that this was one of the reasons for remaining in the region.
- Households within AE flood zones are more likely (47.0 percent) to state pet or animal care as a reason as are those that live within 100 meters of the coastline (55.0 percent).
- Households within low-to-moderate income areas are less likely (30.5 percent) to mention pet or animal care as a reason.

## Reason Stayed in Home Rather than in Community Shelter

Households were queried to provide the reasons they chose to stay specifically in their own home rather than go to a community shelter.

- Over 21 percent of the mentioned reasons fall within the concept of safe structure, meaning that the home's sheltering structure was viewed as either adequate to manage the storm or better than the community shelter structure.

## Weather Reports Exaggerated

Households were asked if they thought Hurricane Irene weather reports or news about how bad it might be were exaggerated.

- Just over 27 percent of households report that they thought the weather reports or news were exaggerated.
- Households in low-to-moderate income areas are more likely (30.9 percent) to perceive weather reports as exaggerated.

## Things Might Do Differently

Households were asked, if a storm similar to Hurricane Irene approaches in the future, would they do anything differently. Remarkably, as illustrated in the first chart,

- Nearly 44 percent mention that the household would prepare more effectively in anticipation of the impending storm and about 25 percent would depart the region.

## Evacuation Behavior

- Roughly 5.6 percent of Portsmouth households evacuated in anticipation of Irene.
- Most households took two vehicles out of the region even though just over half the evacuating households had two or fewer persons to evacuate; often the additional vehicle was taken out for fear of wind or water damage.
- Nearly one in five households that evacuated coordinated, followed, or caravanned with another vehicle that left at the same time.
- Households are more likely to depart in the early morning relative other times of day.
- Over half of the departing households did so within 26 hours of the storm making landfall.

### **Experienced Hurricane Isabel in 2003**

Households were asked whether or not they experienced Hurricane Isabel in 2003.

- Approximately 89 percent report that they experienced Hurricane Isabel.

### **Experienced Damage to the Home from Isabel in 2003**

Households that experienced Hurricane Isabel further were asked whether or not they experienced any damage to their home.

- Approximately 38 percent report that they suffered damage to their homes.
- Households within AE flood zones are more likely (44.0 percent) to report damage as are households within low-to-moderate income areas (43.7 percent).

### **Severity of Damage to Home from Isabel in 2003**

Households that both experienced Hurricane Isabel and reported damage were asked to judge the severity of the damage to their home on a scale of heavy, moderate, or light damage.

- While just over 52 percent report light damage and over 34 percent report moderate damage, roughly 13 percent report heavy damage to their homes.
- Households within AE flood zones are more likely (18.1 percent) to suffer heavy damage as are households within low-to-moderate income areas (23.8 percent).

### **Time it Took to Recover from Isabel in 2003**

Households that both experienced Hurricane Isabel and reported suffering damage were further asked how long it took to recover from the storm damage and its aftermath.

- Nine out of ten households that reported damage report being able to recover within six months of the storm.

## PART 3 - Methodology

The figures, tables, and maps contained within this report are derived from interviews of 353 Portsmouth households conducted following Hurricane Irene (this sampling was part of a larger sampling conducted across the Region). The research approach included a random telephone sampling of Portsmouth households to gauge *household* storm-related behavior, perceptions, and vulnerabilities specific to Irene. In addition, several questions were asked to gather general information about exposure and losses experienced during the earlier event, Hurricane Isabel in 2003. Thus, interviewed households were screened to include only households that experienced Hurricane Irene. Among these households, the households that also experienced Hurricane Isabel were queried additional Isabel-specific questions.

While the findings tell us with certainty facts about the sampled households, the size of the sample conditions the confidence one may have in making inferences to the broader population of households in Portsmouth. The sample size is large enough that we can make inferences with reasonable confidence. Yet any such statements about the overall population drawing from this sample must be made with the qualification that these are inferences and there is some degree of uncertainty.

For this report, we aggregate and present many of the findings at the household level. This unit of analysis reflects the authors' belief that many of the behavioral choices about how to prepare for and respond to an impending severe storm event takes place within the context of social networks rather than the individual being an independent rational actor. The household is a fundamental social unit in our society and often mitigation decisions are made within this context. But we recognize that there are other, perhaps broader and more-diffuse, social familial networks that may also condition decision making. Thus, we present information on household behavior within these larger network influences.

Responding households have been geocoded to the nearest self-reported residential cross street. In addition to the charts and tables describing the relationships among key variables, from these geocoded cases heat maps have been generated that represent the intensity of vulnerabilities.

Generally, first offered is a chart illustrating descriptive statistics for a key variable. Then, this is followed by subsequent charts showing controlled this key variable by 1) inclusion within an AE flood zone, 2) proximity to one of several coastlines, 3) income, and 4) inclusion within low to moderate income area.

Residing in a designated flood zone may be associated with increased exposure to recurrent flooding. The high risk flood zone examined was the National Flood Insurance Program (NFIP) AE Flood Zone. The AE Flood Zone is characterized by a 1-percent-annual chance of flooding,

and is subject to mandatory national flood insurance requirements and applicable development codes.

Proximity to a coastline may be related to experiential behavior and perceptions relating to recurrent flooding and mitigation. Thus, the reported data have been disaggregated by proximity to one of three coastlines: 1) the current coastline, 2) the projected coastline under the assumption of 1.5 foot increase in sea level rise, and 3) the projected coastline under the assumption of 1.5 foot increase in sea level rise combined with 3 foot storm surge. For each of these coastlines, a buffer was created 100 meters inland from the coastline.

Income may influence perceptions and behaviors, or impact available resources for preparedness and recovery. The income figures are for self-reported annual household income.

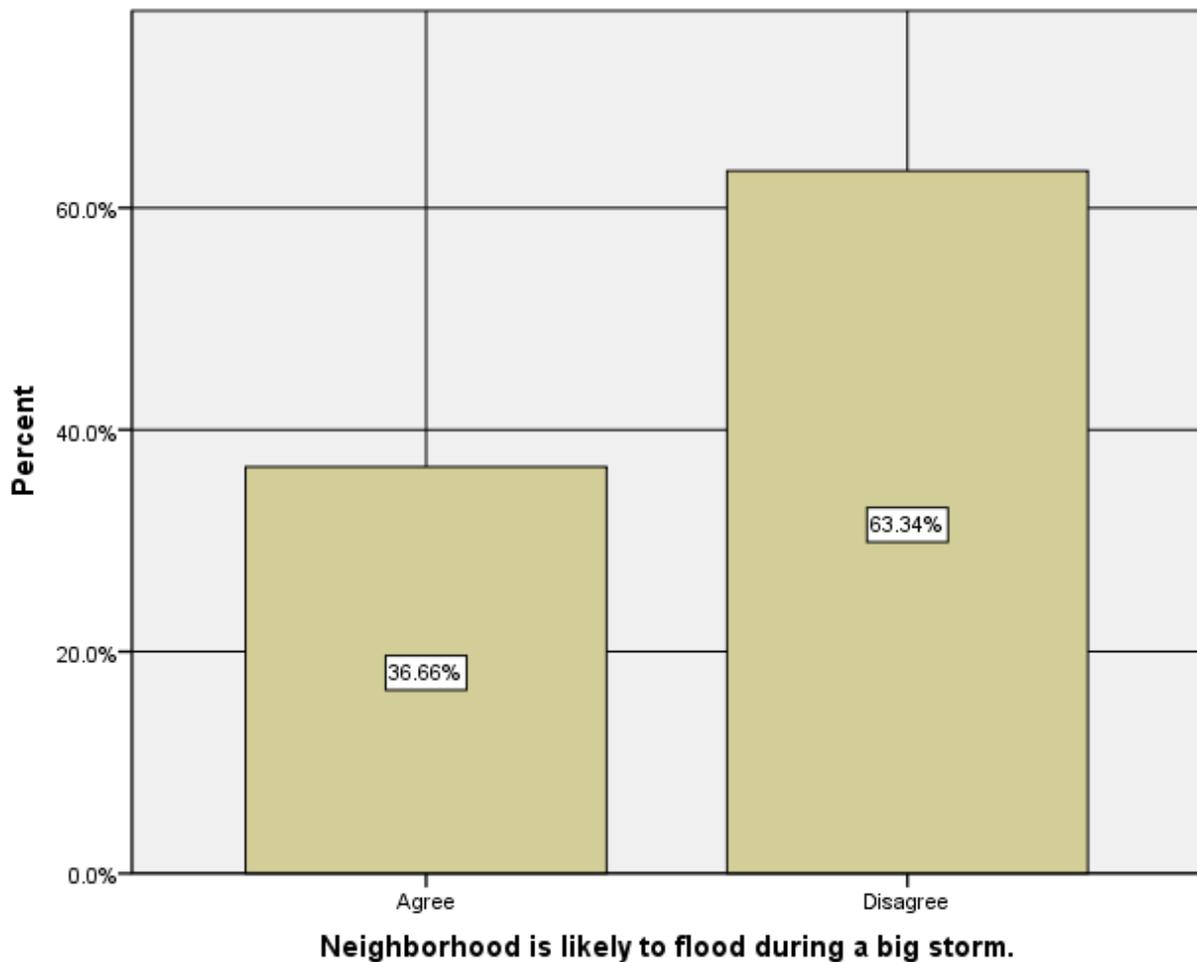
Household income data was provided by U.S. Housing and Urban Development (HUD) for low-to-moderate income households at the census block group level. Low-to-moderate income block groups are those in which 51 percent of households are at or below 80 percent of the block group median income. The household annual income ranges are based directly on survey responses.

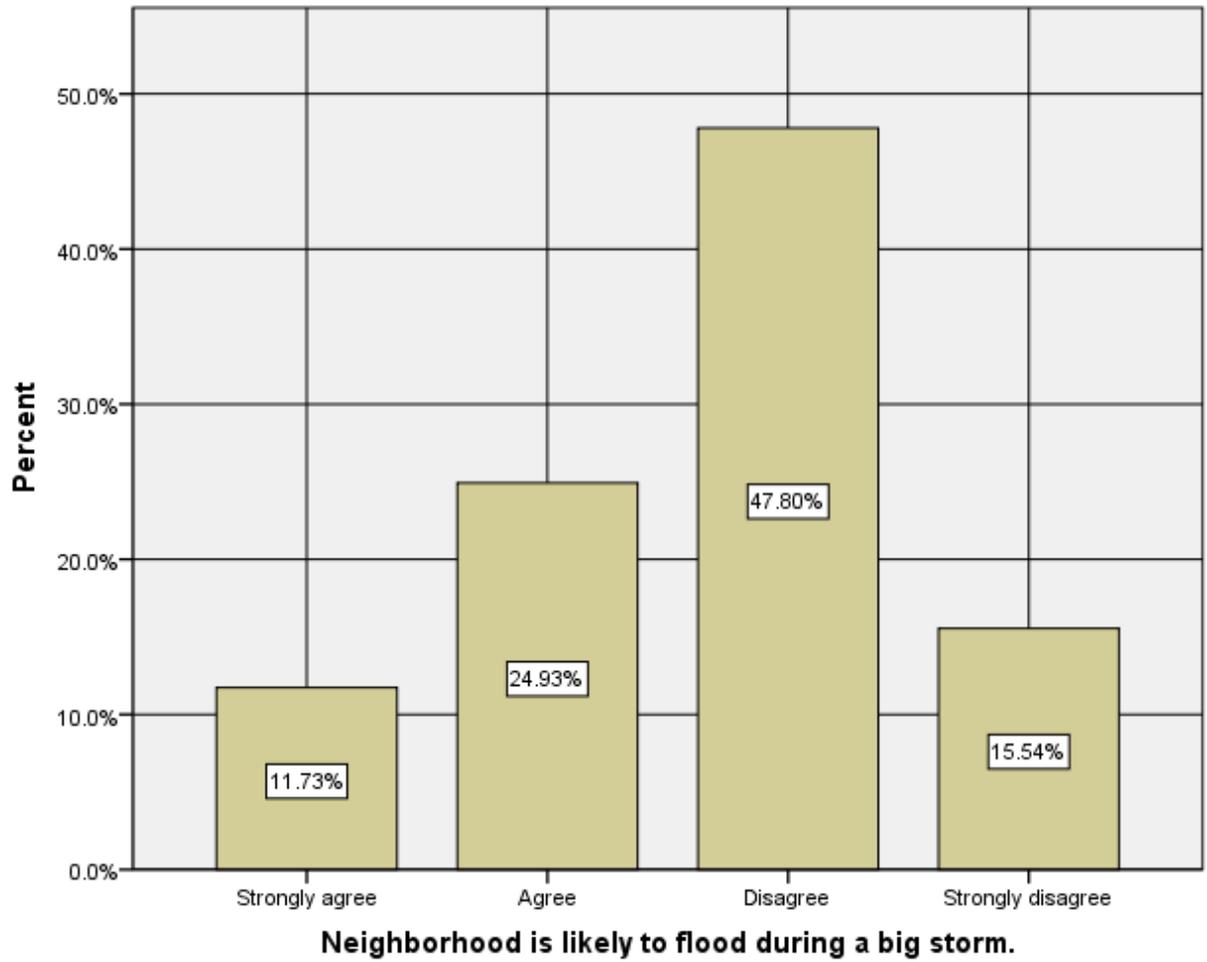
## PART 4 - Results and Analysis

This results and analysis section provides detailed charts, tables, and maps of the study household population along with text description of the variables where necessary.

### Neighborhood Likely to Flood

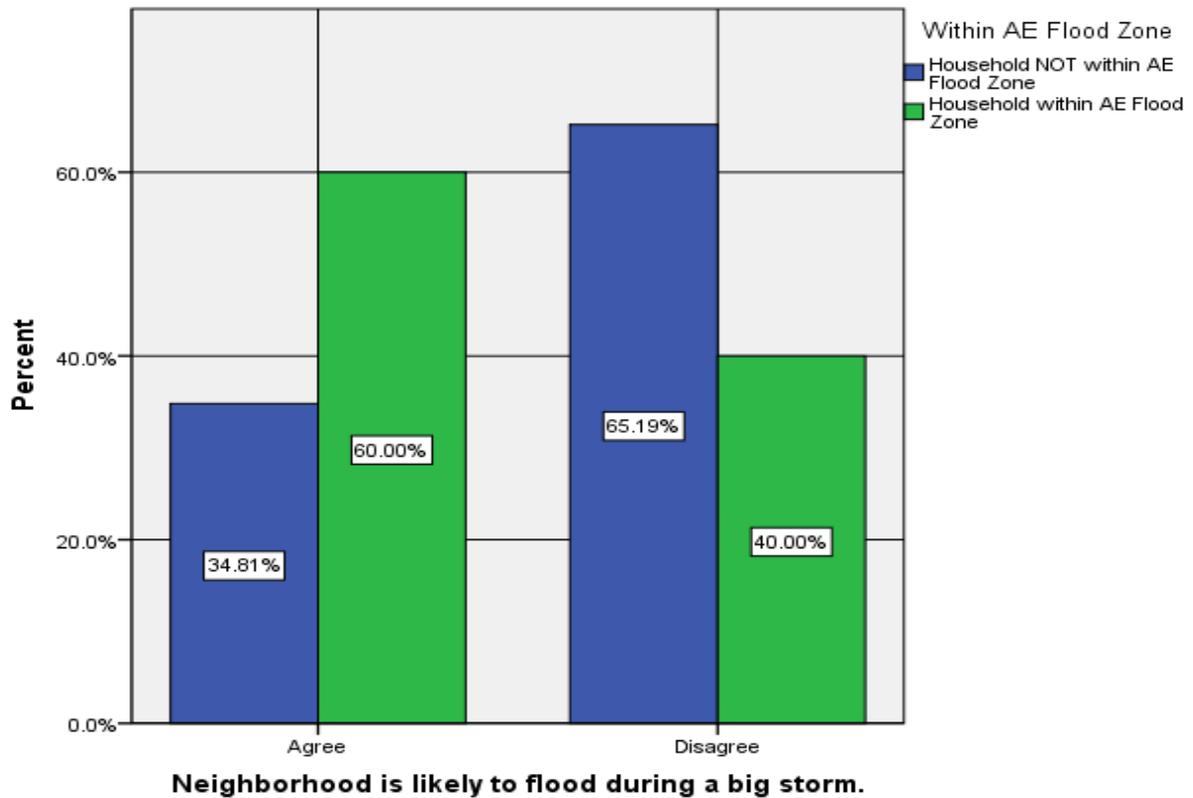
Households were asked to report their level of agreement, on a scale of totally agree, agree, disagree, or totally disagree, that their “neighborhood is likely to flood during a big storm.” A definition for “big storm” was not provided to the respondent. Nearly 37 percent of households agree, to some degree, with this statement. This suggests that the risk perception of neighborhood flooding due to large rain events concerns a sizable portion of the households.

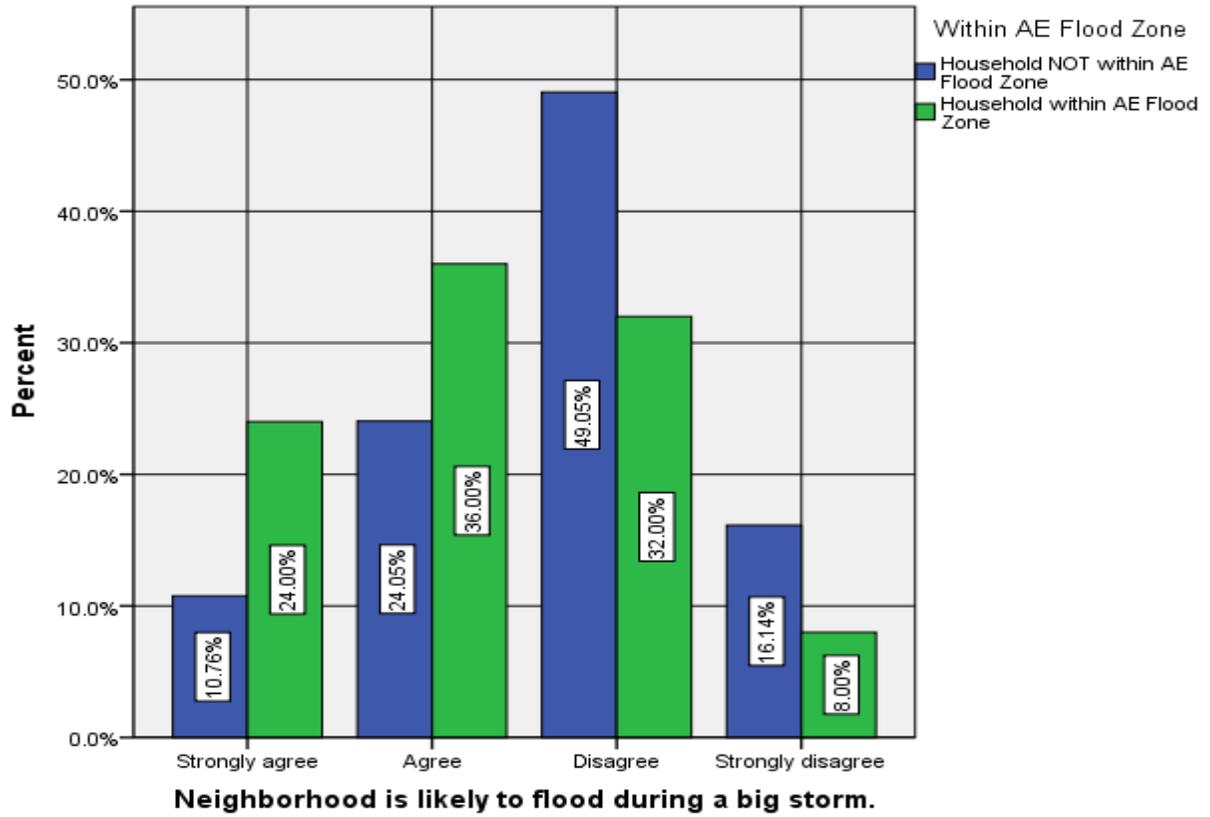




### Neighborhood Likely to Flood .. by .. AE Flood Zone

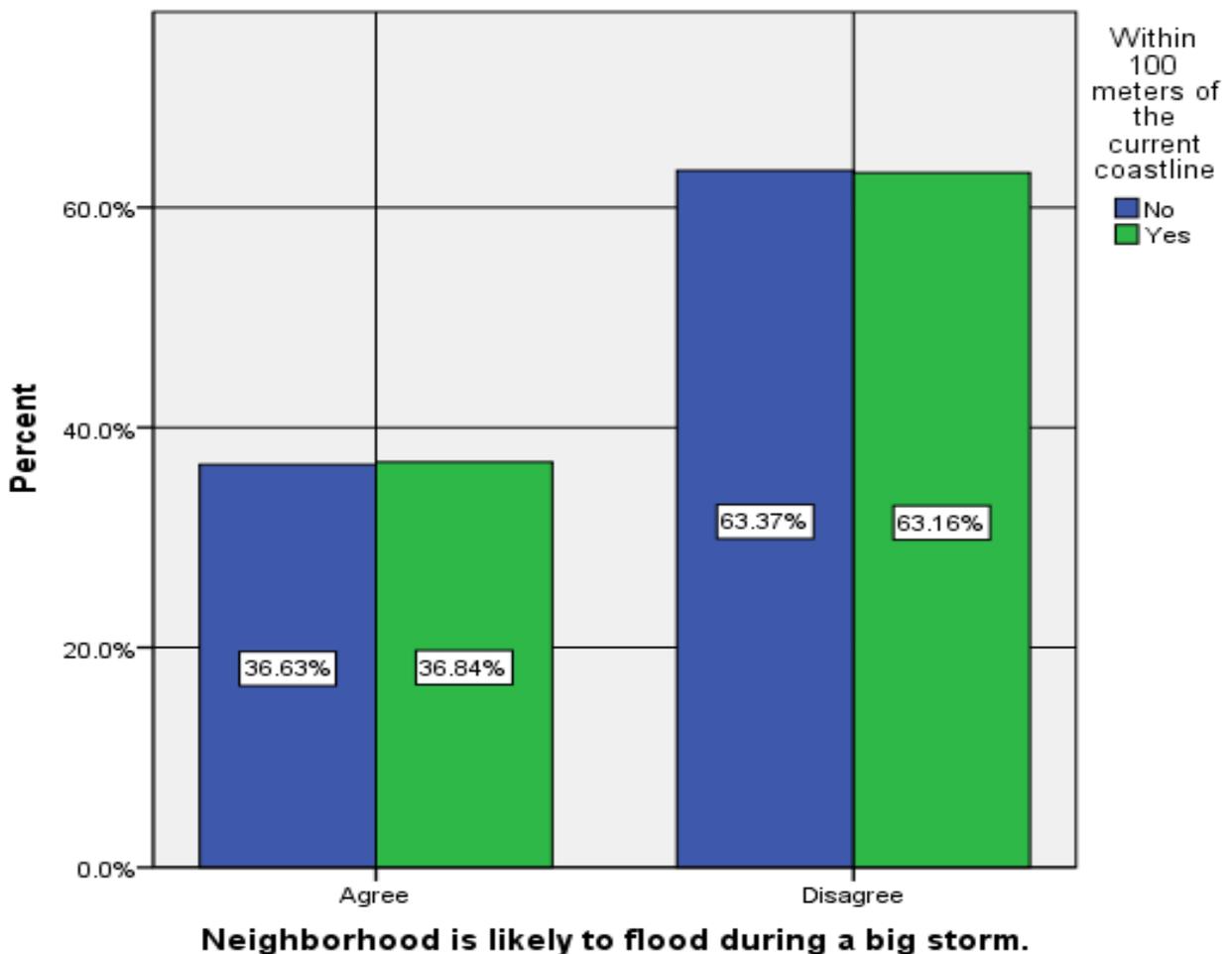
Households were asked to report their level of agreement, on a scale of totally agree, agree, disagree, or totally disagree, that their “neighborhood is likely to flood during a big storm.” These responses are disaggregated based on whether or not the household is located within an AE Flood Zone. Sixty percent of households within the AE Flood Zone agree, to some degree, with the statement. This suggests that the perceived risk of neighborhood flooding due to a large rain event is greater for those living within an AE Flood Zone relative those residing outside the zone.

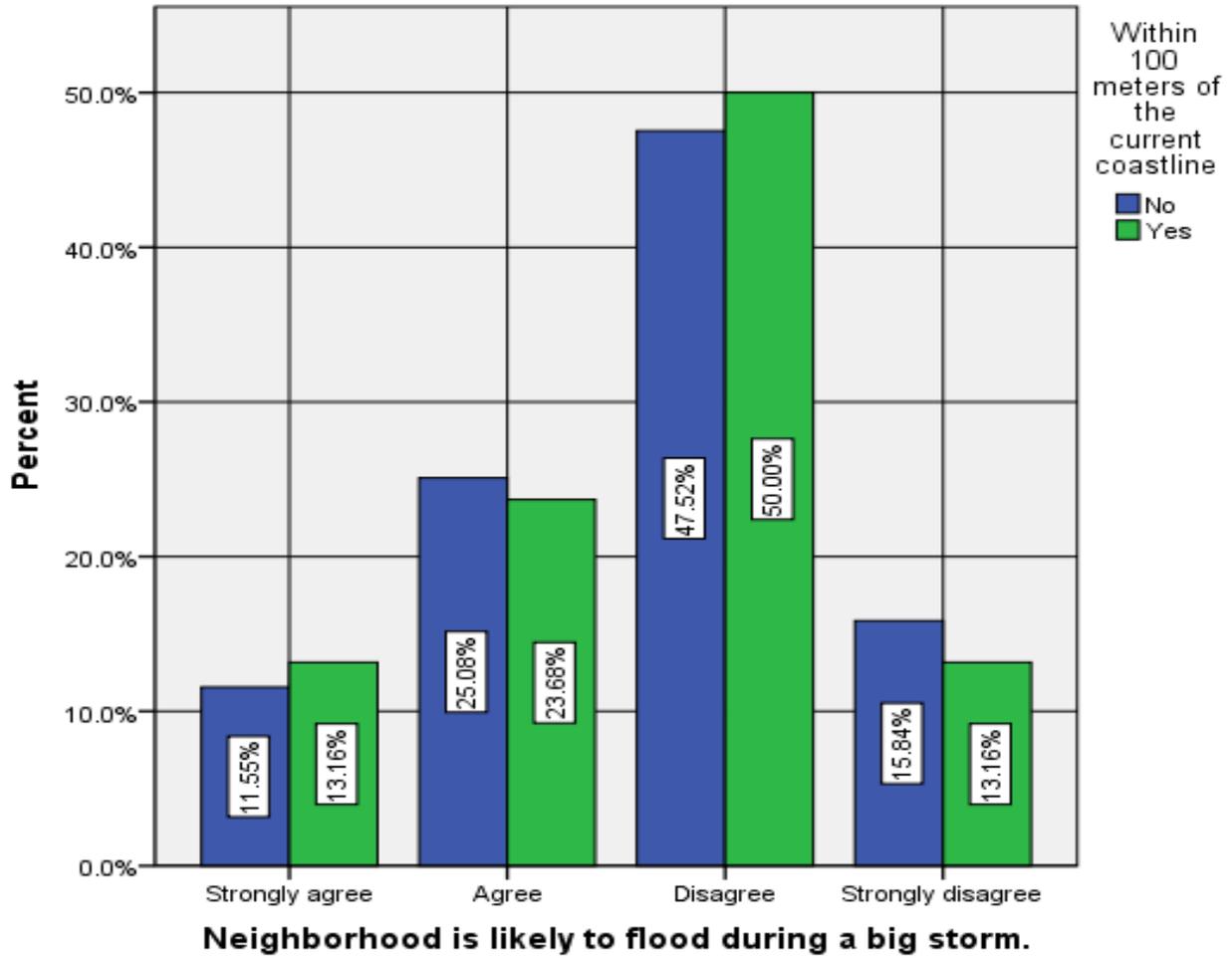




### Neighborhood Likely to Flood .. by .. Within 100m of the Current Coastline

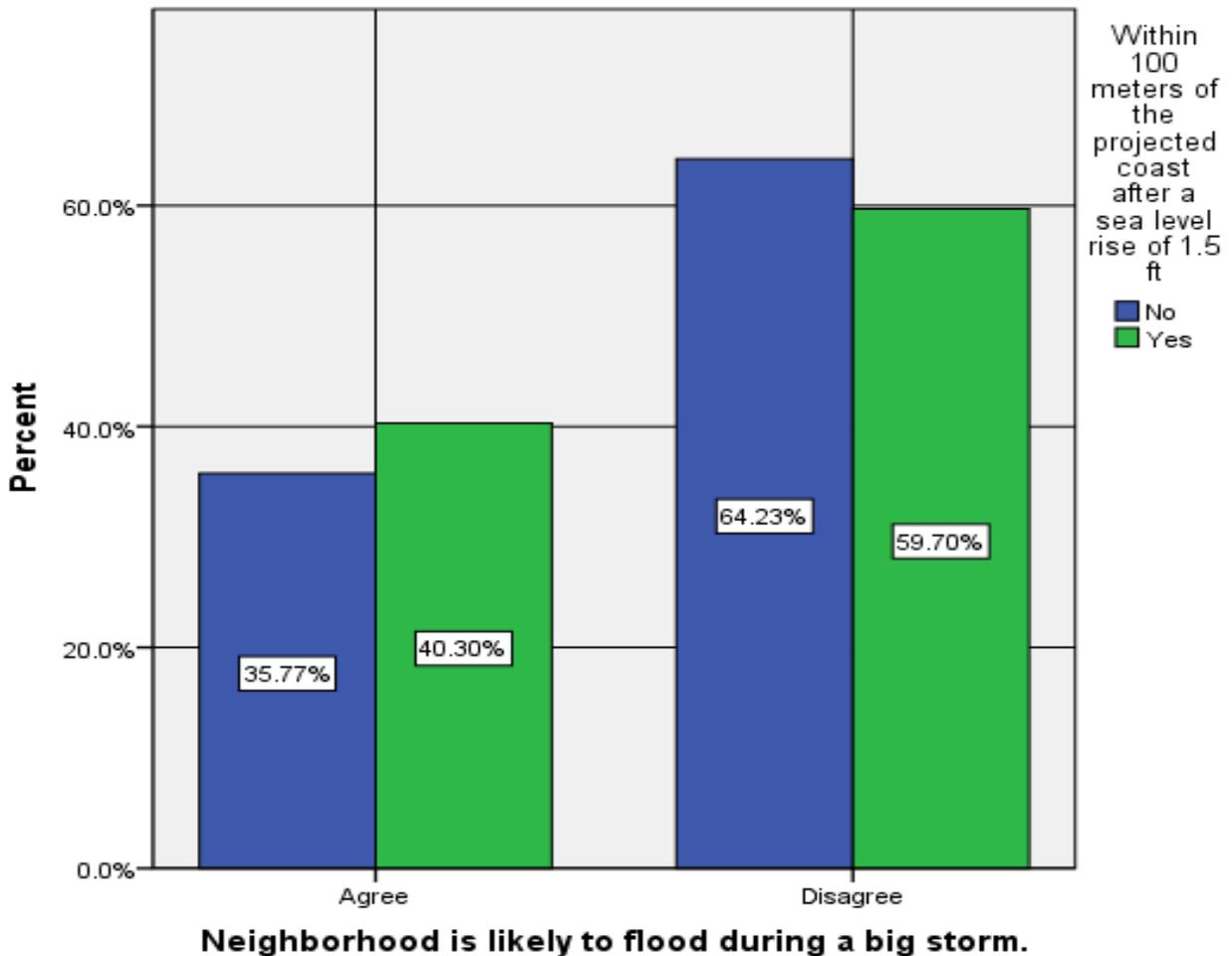
Households were asked to report their level of agreement, on a scale of totally agree, agree, disagree, or totally disagree, that their “neighborhood is likely to flood during a big storm.” These responses are disaggregated based on whether or not the household was located within 100 meters of the current coastline. Approximately 63 percent of households, regardless of proximity to the current coastline, disagree or strongly disagree with the statement. The response rates for each response category were separated by less than 1 percent. This suggests that living within 100 meters of the current coast has little impact on the perceived risk of neighborhood flooding due to a large rain event relative to those living farther from shore.

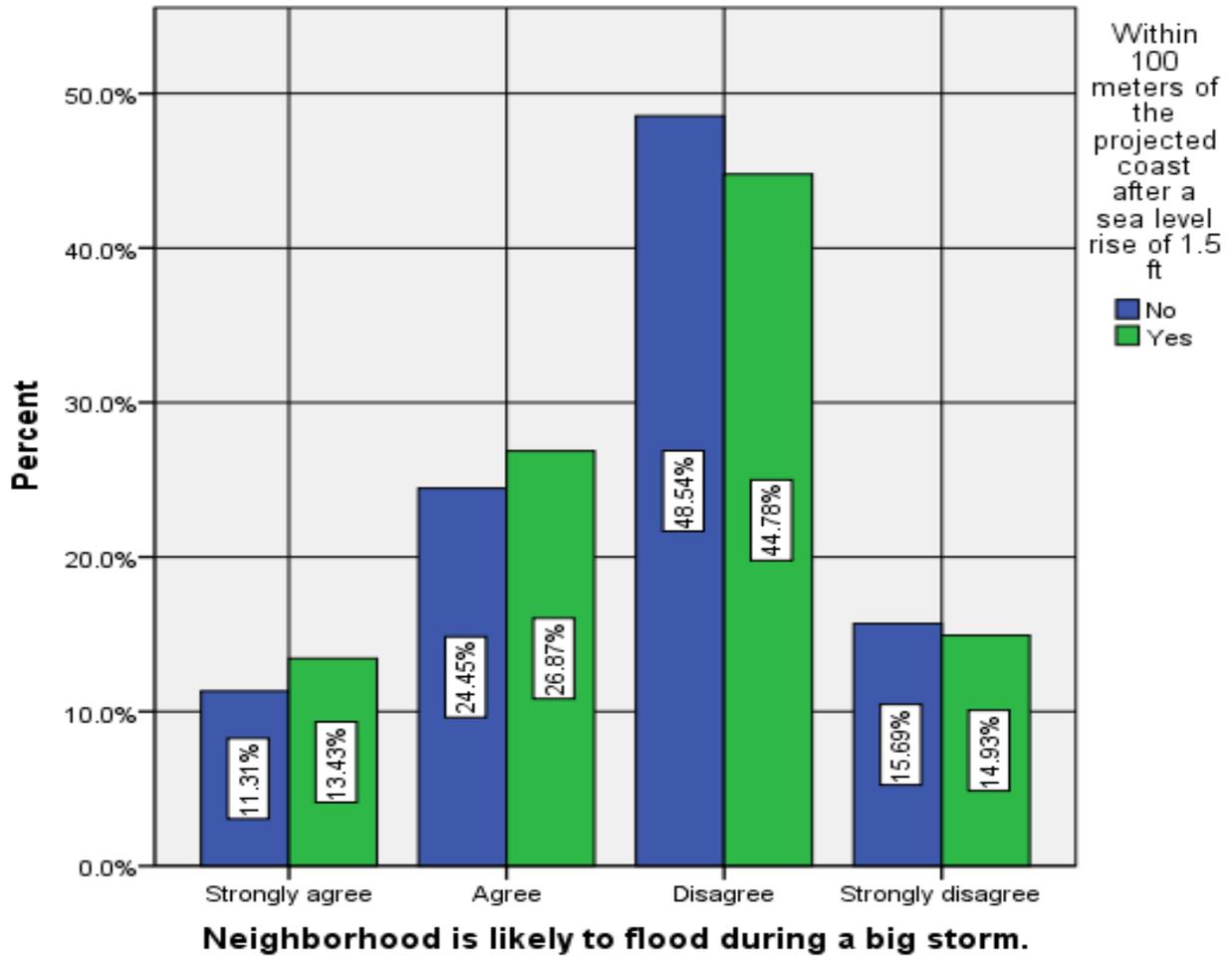




### Neighborhood Likely to Flood .. by .. Within 100m of the Projected SLR Coastline

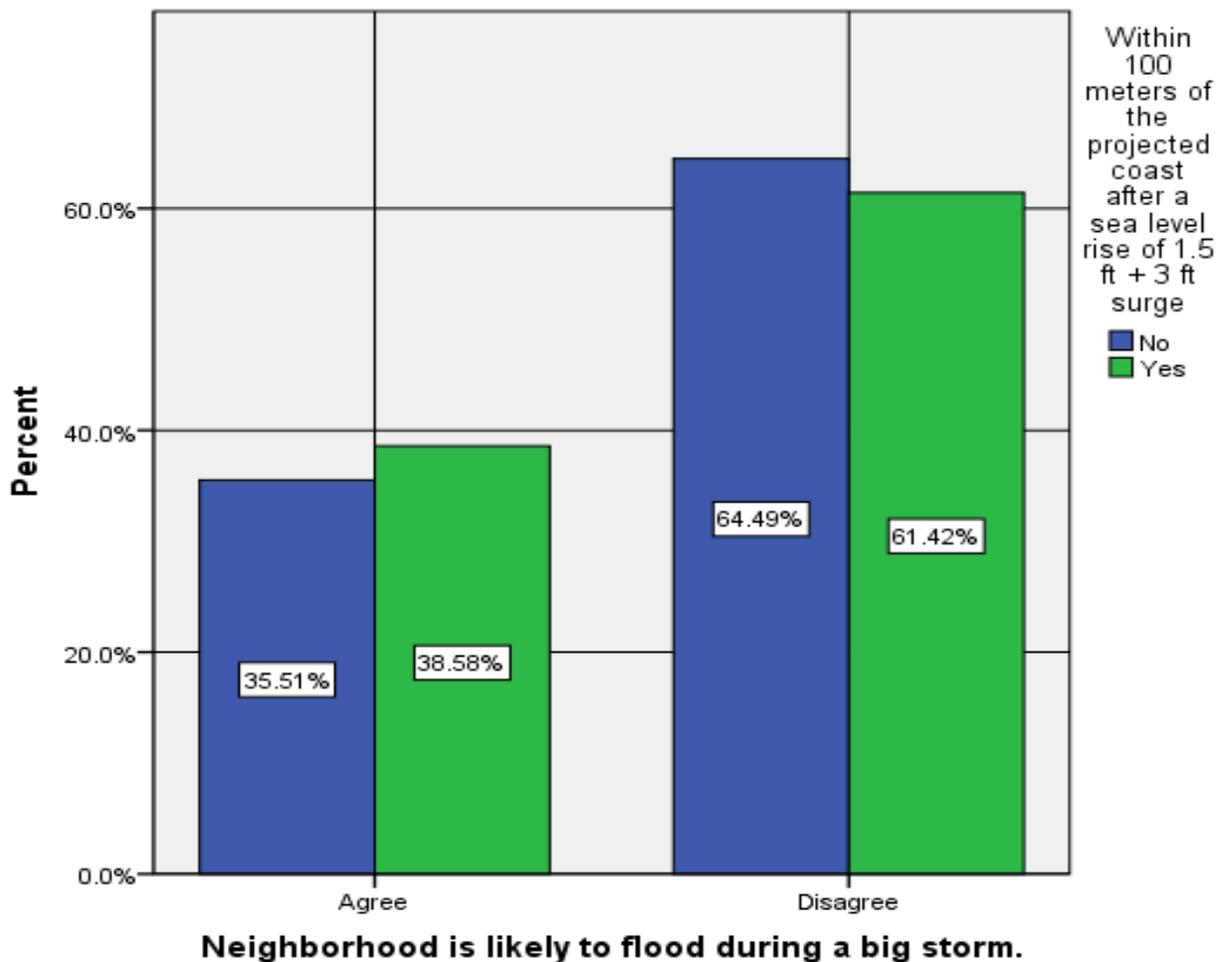
Households were asked to report their level of agreement, on a scale of totally agree, agree, disagree, or totally disagree, that their “neighborhood is likely to flood during a big storm.” These responses are disaggregated based on whether or not the household was located within 100 meters of the projected coastline given a 1.5 foot sea level rise. Approximately 60 percent of households within 100 meters of the projected coastline disagree or strongly disagree with the statement. The response rates for each response category were separated by less than 4 percent.

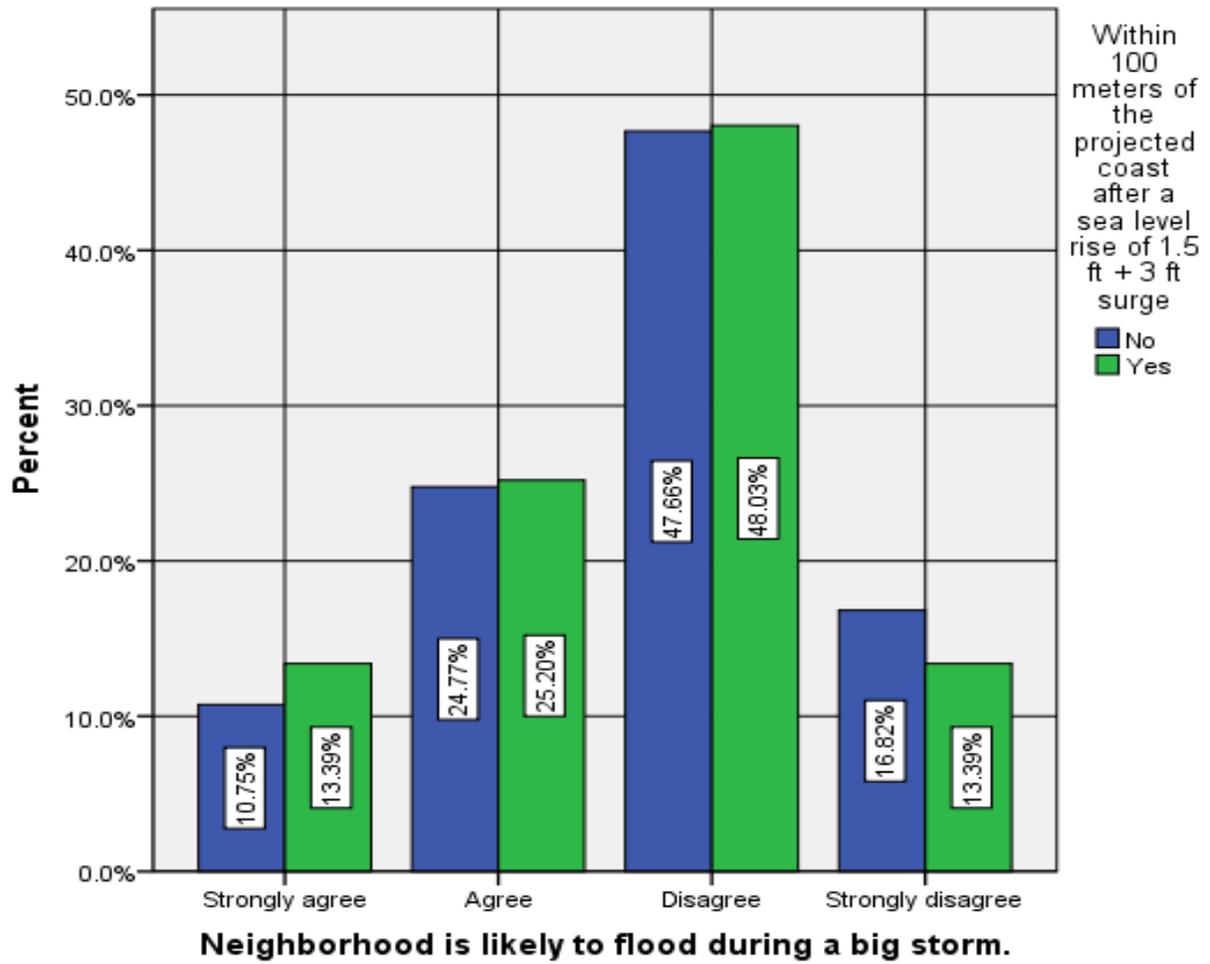




### Neighborhood Likely to Flood .. by.. Within 100m of the Projects SLR+Surge Coastline

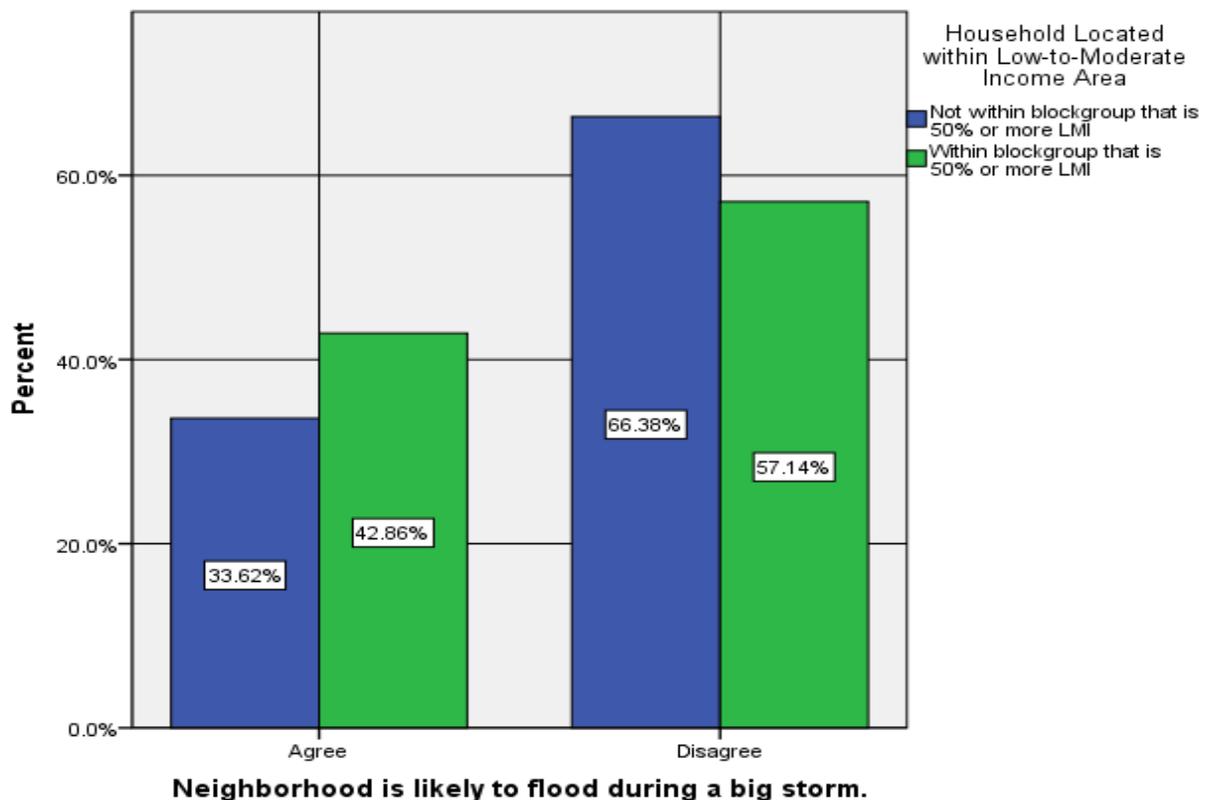
Households were asked to report their level of agreement, on a scale of totally agree, agree, disagree, or totally disagree, that their “neighborhood is likely to flood during a big storm.” These responses are disaggregated based on whether or not the household was located within 100 meters of the projected coastline given a 1.5 foot sea level rise and a 3 foot storm surge. Approximately 61 percent of households, regardless of proximity to the project coastline given sea level rise and storm surge, disagree or strongly disagree with the statement. The response rates for each response category were separated by less than 4 percent.

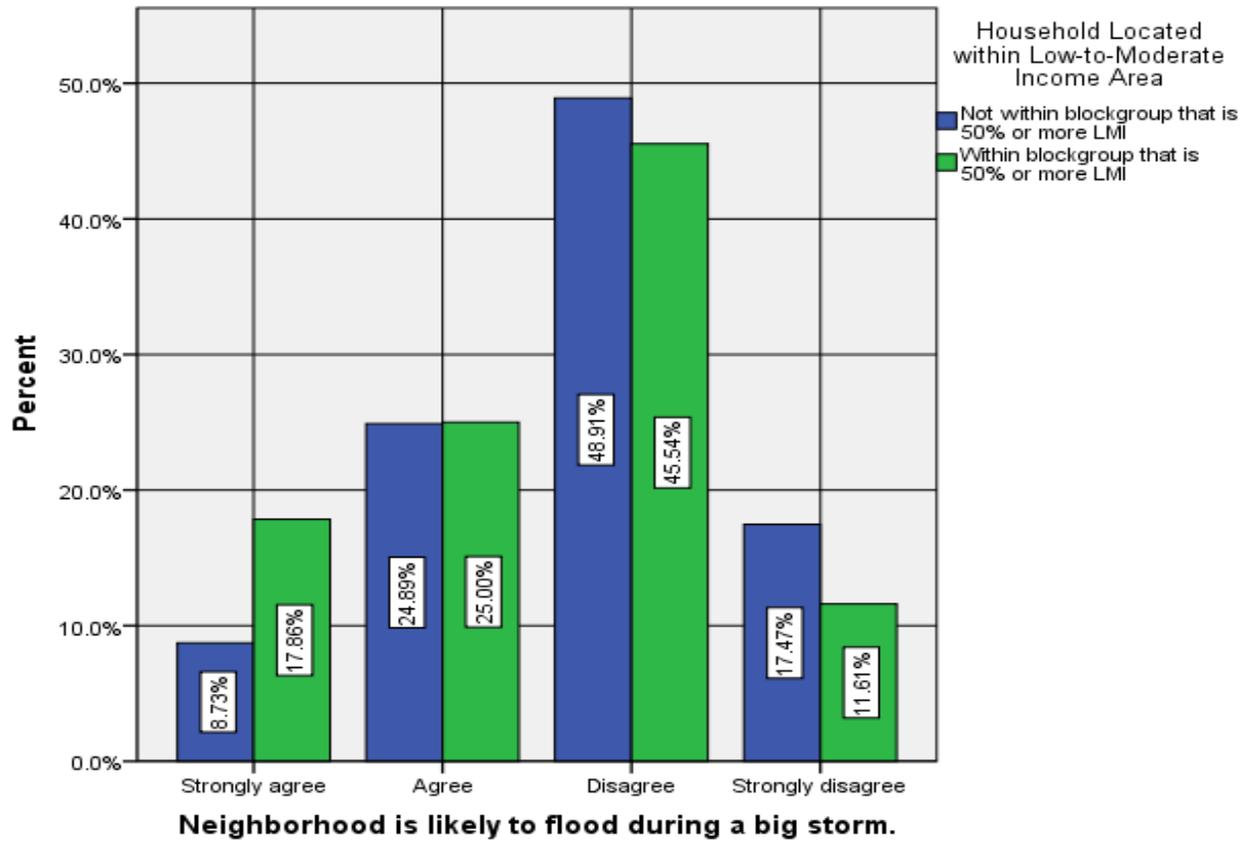




### Neighborhood Likely to Flood .. by .. LMI Area

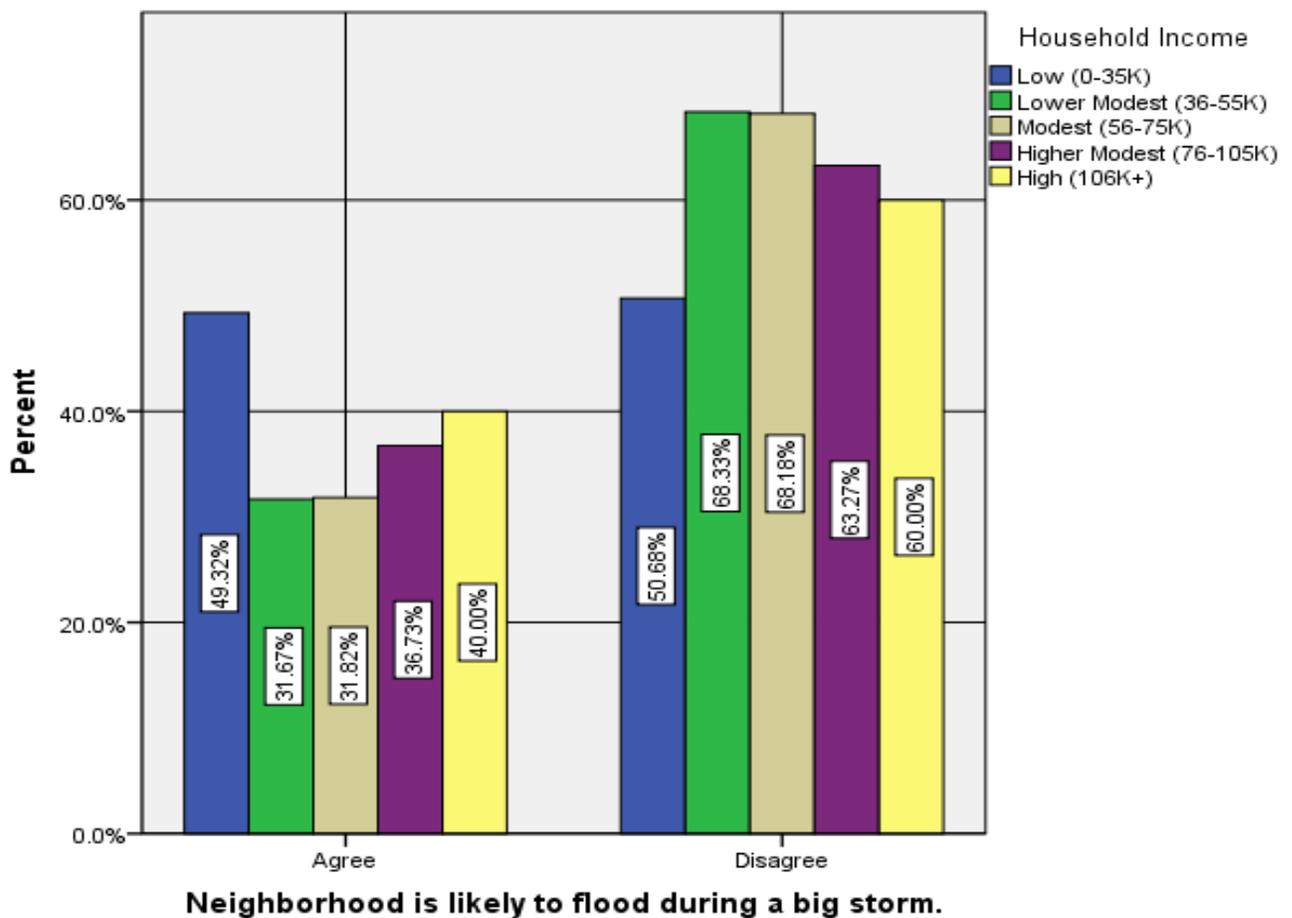
Households were asked to report their level of agreement, on a scale of totally agree, agree, disagree, or totally disagree, that their “neighborhood is likely to flood during a big storm.” These responses are disaggregated based on whether or not the household was located within a low-to-moderate income block group. Approximately 43 percent of households living within low-to-moderate income block groups agree, to some degree with the statement. This suggests that living within a low-to-moderate income block group may have some impact on perceived risk of neighborhood flooding due to a large rain event relative those residing outside of these block groups.

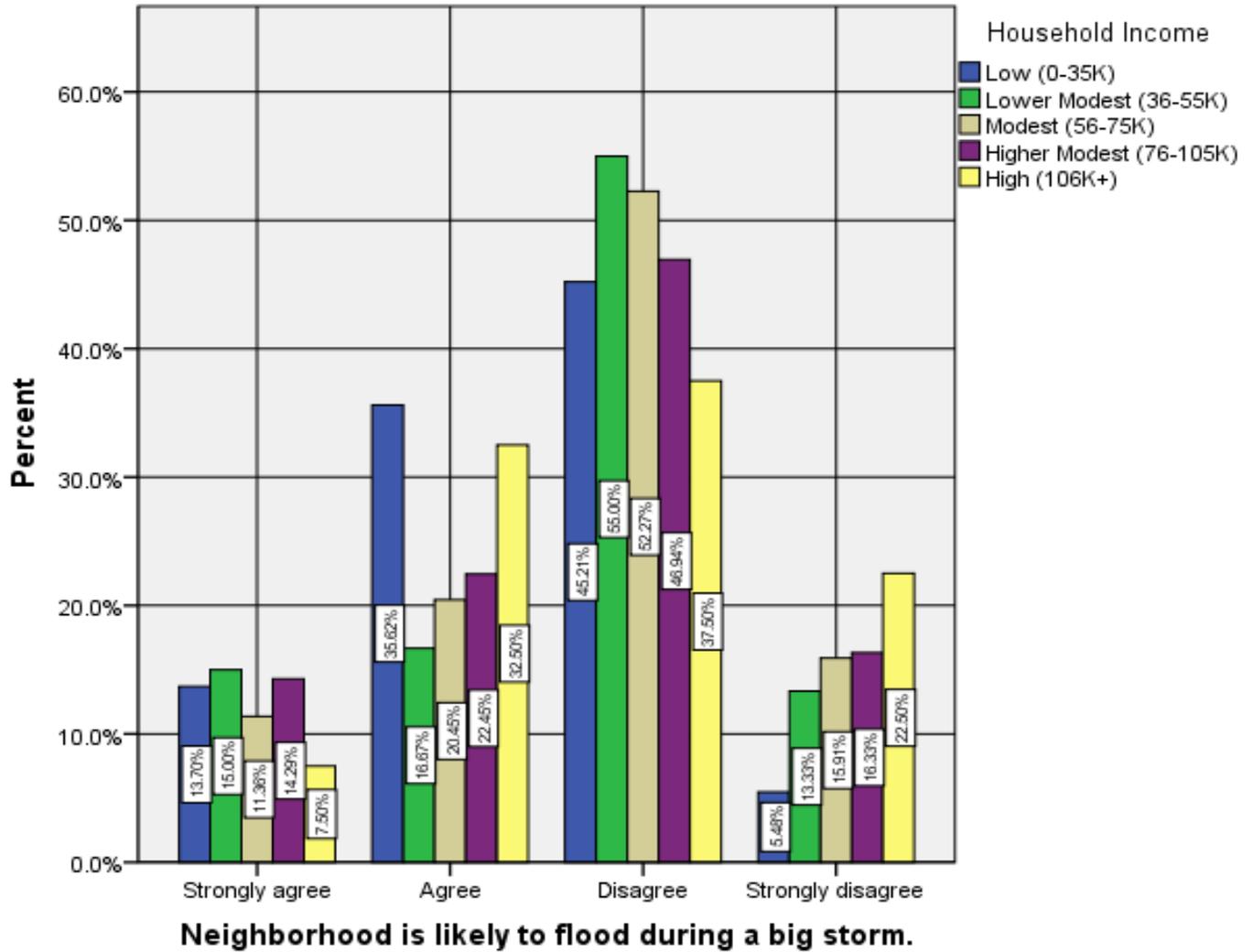




### Neighborhood Likely to Flood .. by .. Income

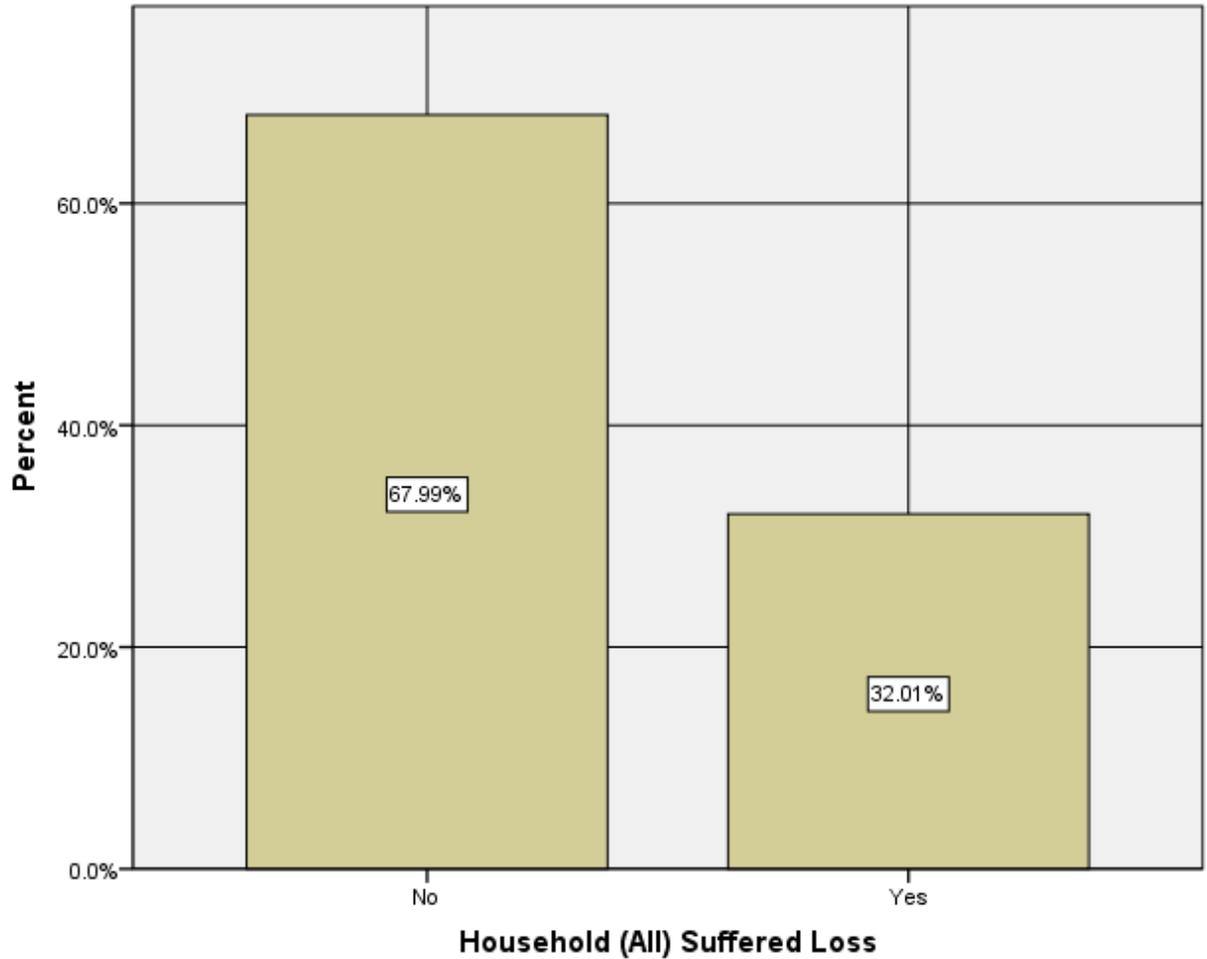
Households were asked to report their level of agreement, on a scale of totally agree, agree, disagree, or totally disagree, that their “neighborhood is likely to flood during a big storm.” These responses are disaggregated based on five annual income ranges. Approximately 49 percent of households in the low income range strongly agree or agree that their neighborhood will likely flood; nearly 51 percent strongly disagree or disagree. Nearly 32 percent of households in the lower modest income range strongly agree or agree that their neighborhood will likely flood; about 68 percent strongly disagree or disagree. Nearly 32 percent of households in the modest income range strongly agree or agree that their neighborhood will likely flood; about 68 percent strongly disagree or disagree. Nearly 47 percent of households in the higher modest income range strongly agree or agree that their neighborhood will likely flood; about 63 percent strongly disagree or disagree that their neighborhood will likely flood. Forty percent of households in the high income range strongly agree or agree that their neighborhood will likely flood; sixty percent strongly disagree or disagree that their neighborhood will likely flood.





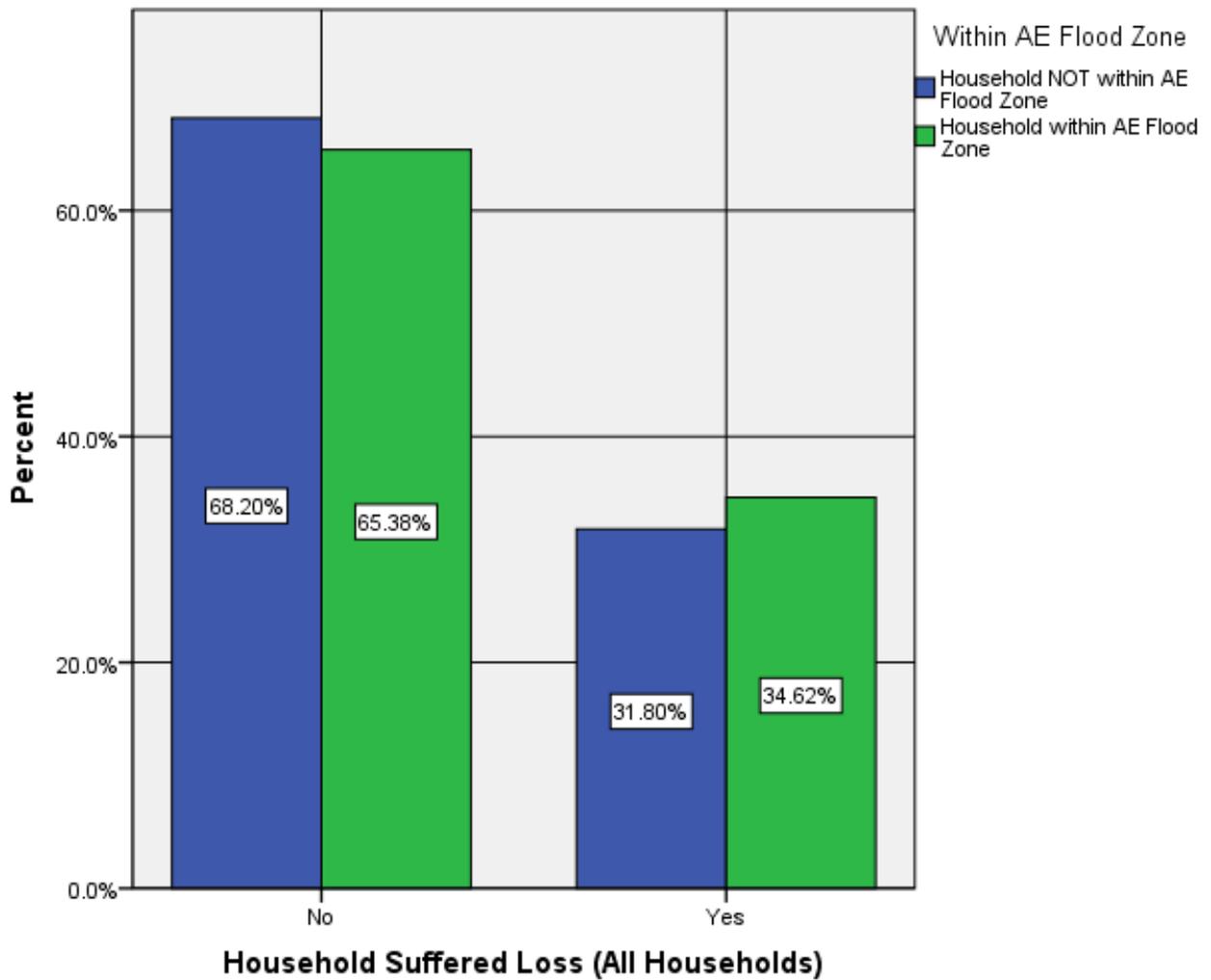
## Household Suffered Loss

Households were asked several question related to the types of loss that the household may have suffered from Hurricane Irene. Approximately 32 percent report that they suffered some form of a loss, while nearly 68 percent report that they had not suffered a loss.



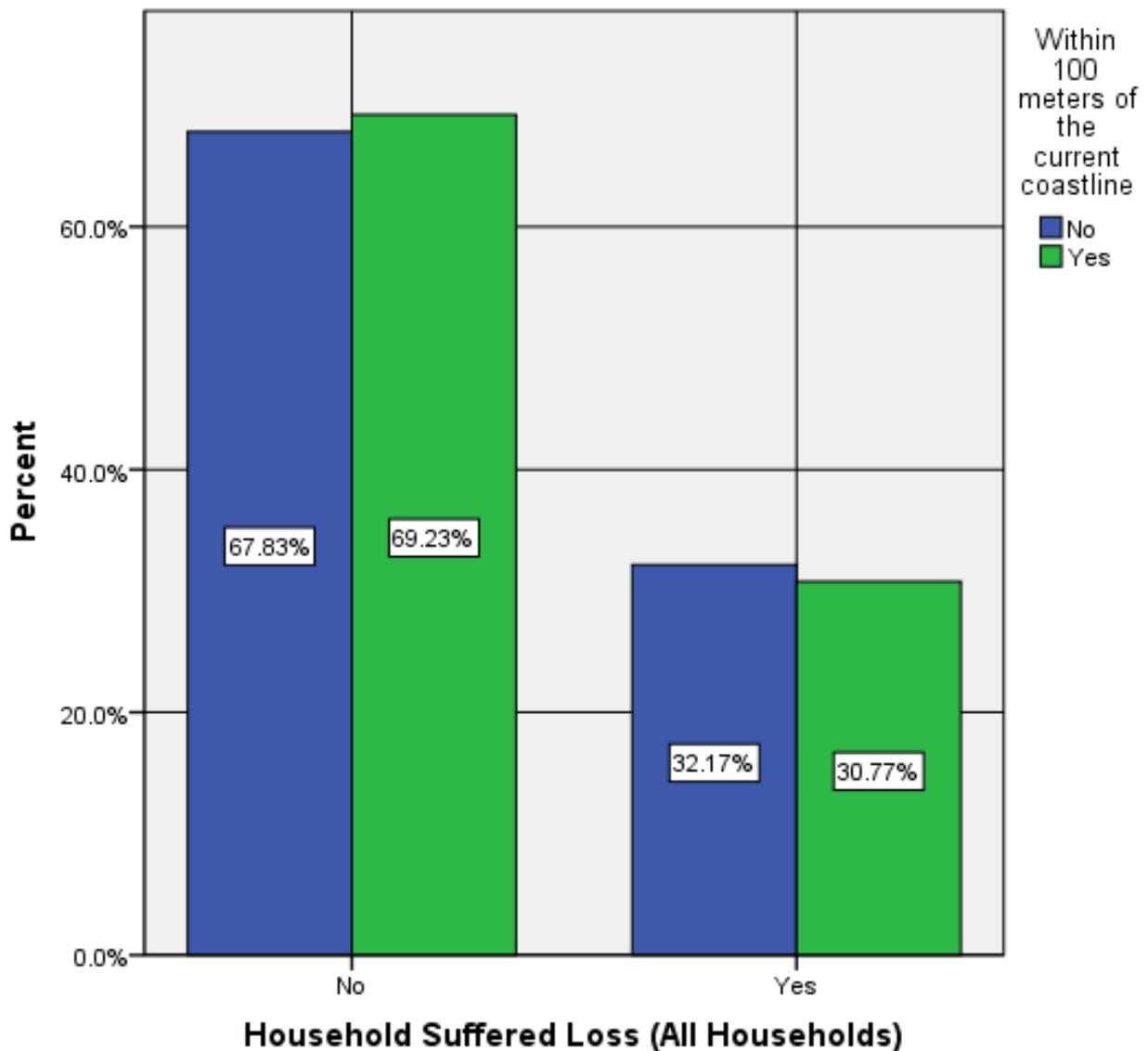
### Household Suffered Loss .. by .. AE Flood Zone

Households were asked several question related to the types of loss that the household may have suffered from Hurricane Irene. These households are disaggregated based on whether or not they are located within an AE flood zone. For those households located within the flood zone, nearly 35 percent report that they suffered a loss, while approximately 65 percent report that they didn't suffer a loss. For those households not located within the flood zone, nearly 32 percent report that they suffered a loss and about 89 percent report that they didn't suffer a loss.



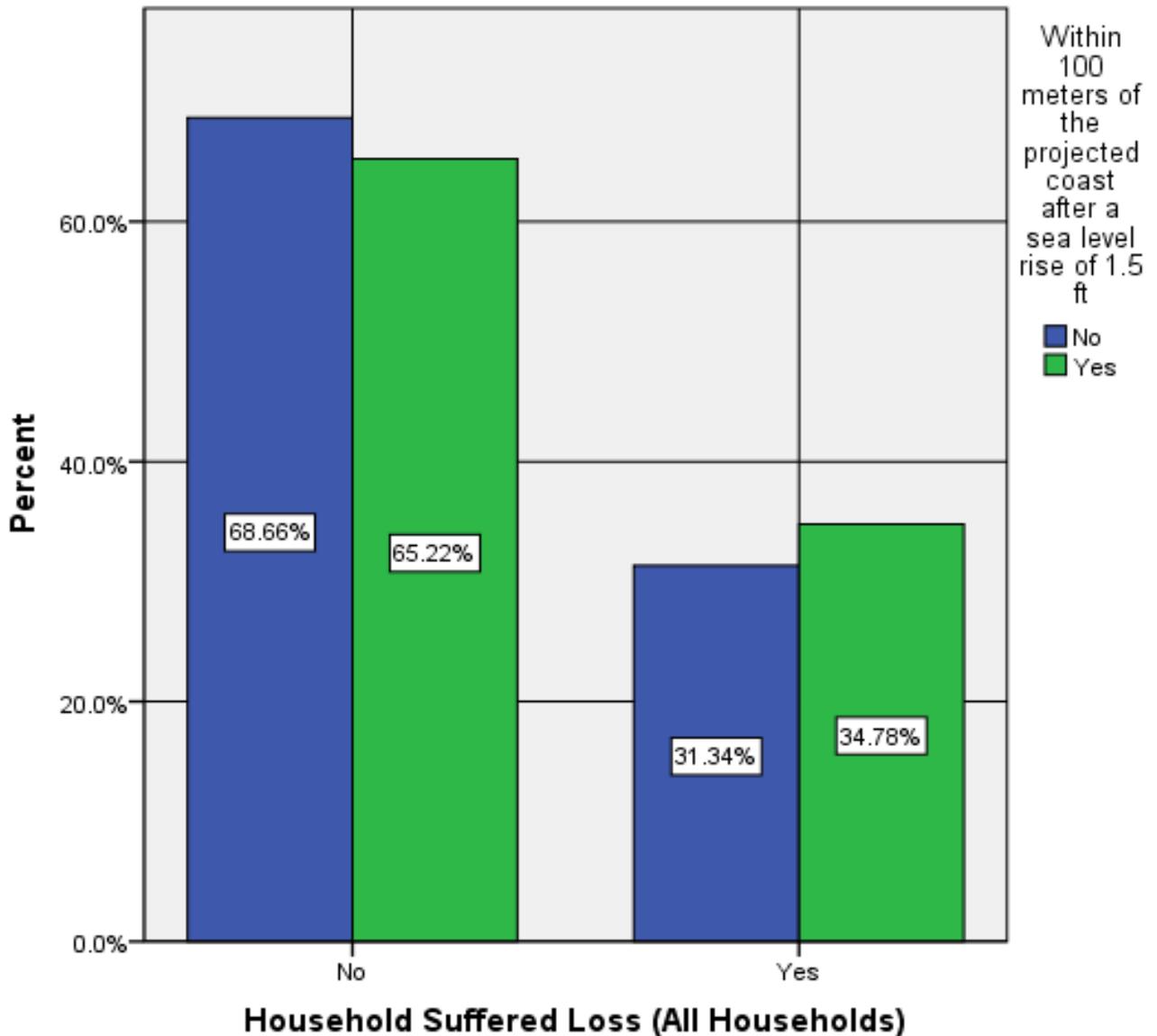
### Household Suffered Loss .. by .. Within 100 Meters of the Current Coastline

Households were asked several question related to the types of loss that the household may have suffered from Hurricane Irene. These households are disaggregated based on whether or not they are located within 100 meters of the current coastline. For those households located within 100 meters of the current coastline, nearly 31 percent report that they suffered a loss, while approximately 69 percent report that they didn't suffer a loss. For those households that are not located within 100 meters of the current coastline, about 32 percent report that they suffered a loss and approximately 68 percent report that they didn't suffer a loss.



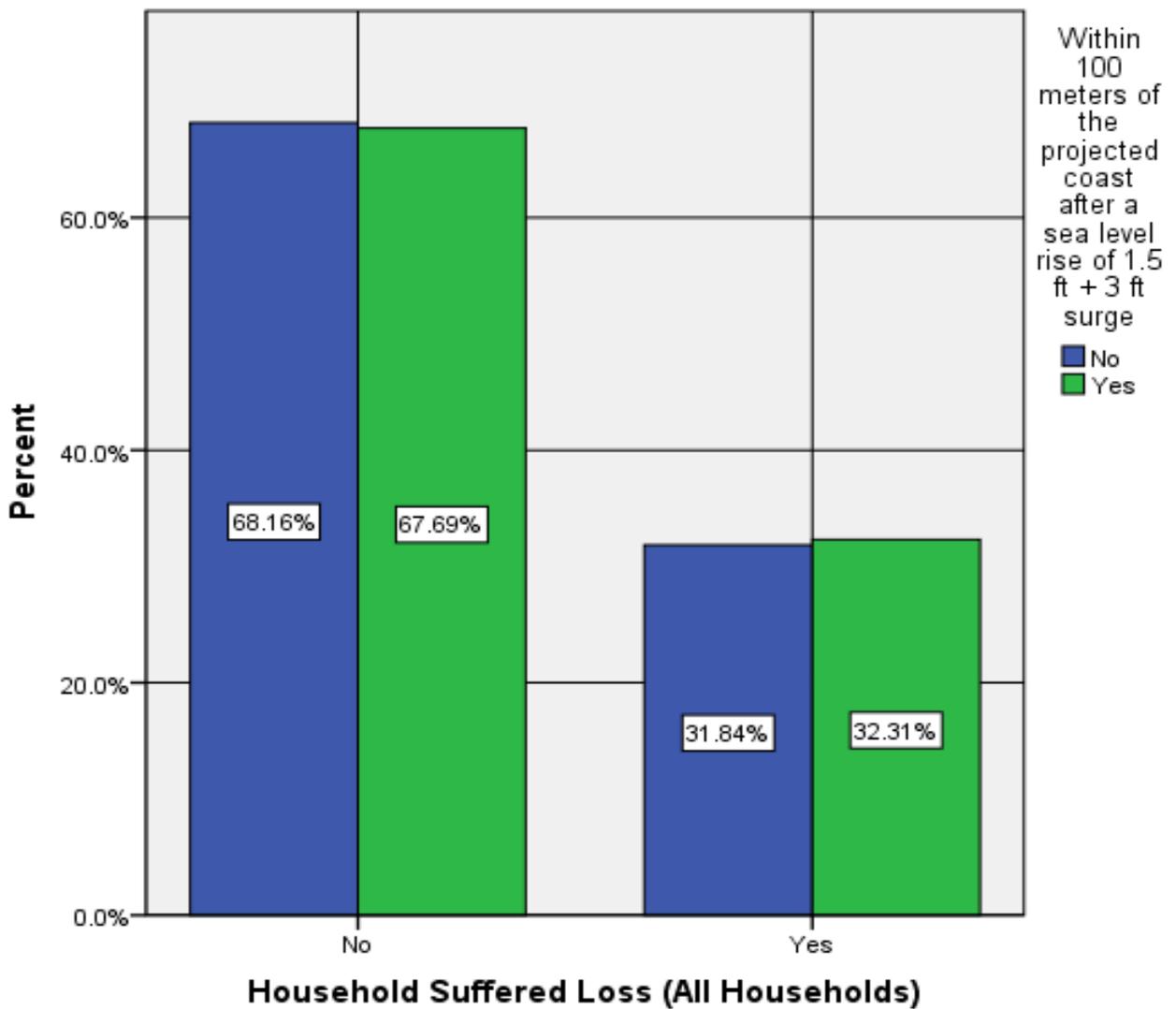
### Household Suffered Loss .. by .. Within 100 Meters of the Projected SLR Coastline

Households were asked several question related to the types of loss that the household may have suffered from Hurricane Irene. These households are disaggregated based on whether or not they are located within 100 meters of the projected coastline after a sea level rise (SLR) of 1.5 feet. For those households located within 100 meters of the projected SLR coastline, nearly 35 percent report that they suffered a loss, while approximately 65 percent report that they didn't suffer a loss. For those households that are not located within 100 meters of the projected SLR coastline, about 31 percent report that they suffered a loss and nearly 69 percent report that they didn't suffer a loss.



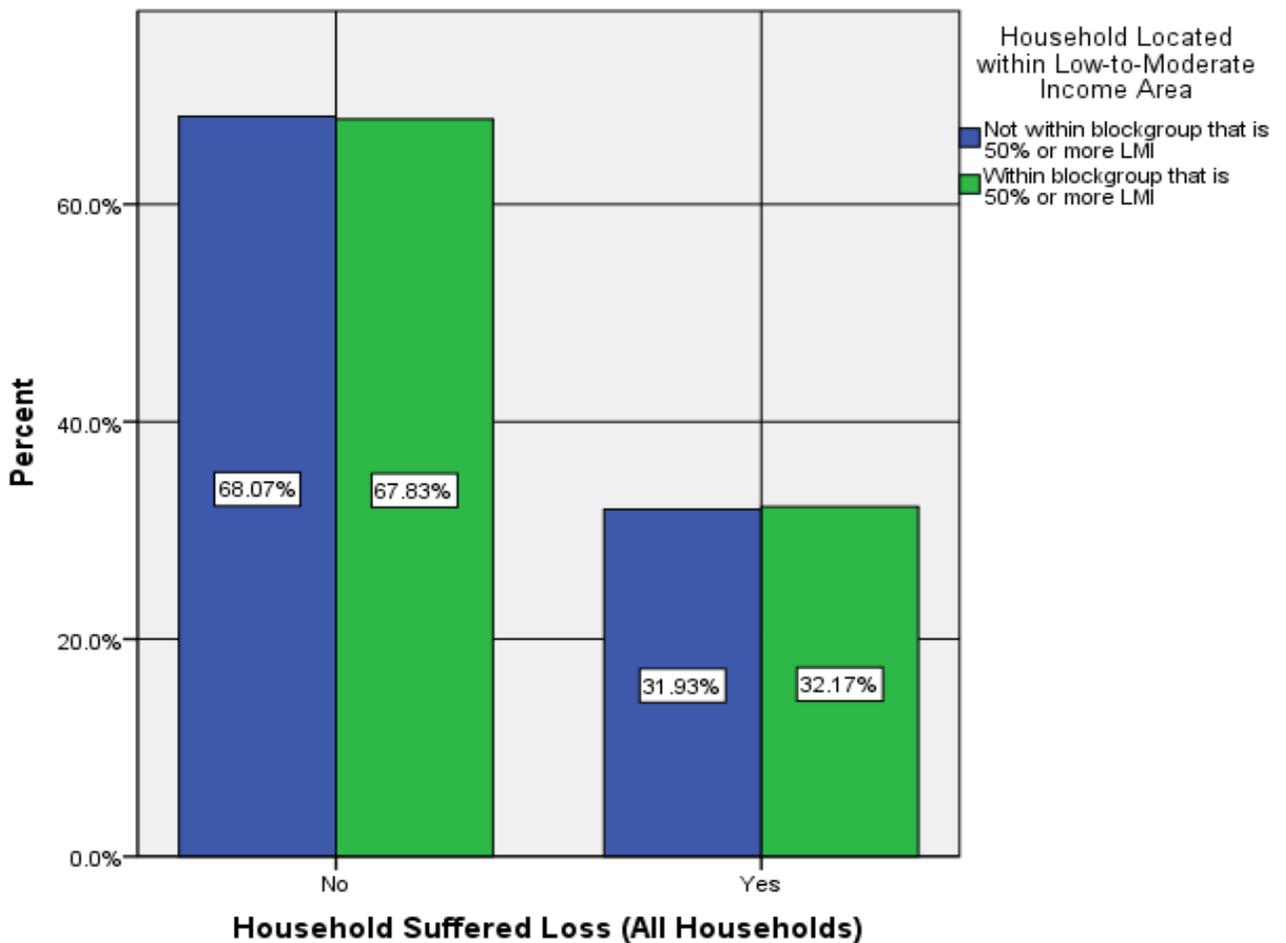
### Household Suffered Loss .. by .. Within 100 Meters of the Projected SLR+Surge Coastline

Households were asked several question related to the types of loss that the household may have suffered from Hurricane Irene. These households are disaggregated based on whether or not they are located within 100 meters of the projected coastline after a sea level rise (SLR) of 1.5 feet and a storm surge of 3 feet. For those households located within 100 meters of the projected SLR+Surge, about 32 percent report that they suffered a loss, while nearly 68 percent report that they didn't suffer a loss. For those households that are not located within 100 meters of the projected SLR+Surge, nearly 32 percent report that they suffered a loss and nearly 68 percent report that they didn't suffer a loss.



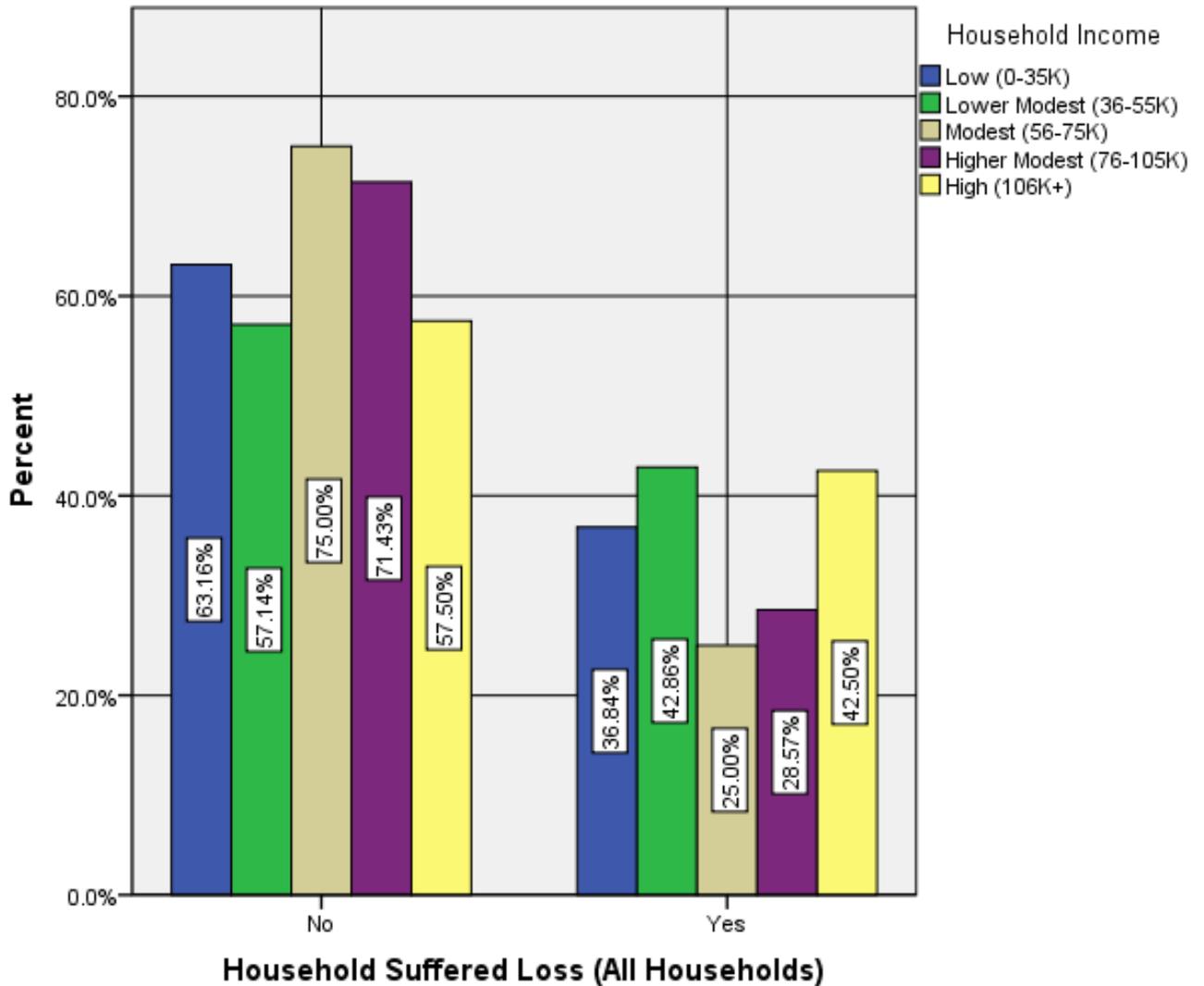
### Household Suffered Loss .. by .. LMI Area

Households were asked several question related to the types of loss that the household may have suffered from Hurricane Irene. These households are disaggregated by whether or not they are located within a low-to-moderate income block group. For those households located within a low-to-moderate income block group, about 32 percent report that they suffered a loss, while nearly 68 percent report that they didn't suffer a loss. For those households that are not located within a low-to-moderate income block group, about 32 percent report that they suffered a loss and about 68 percent report that they didn't suffer a loss.



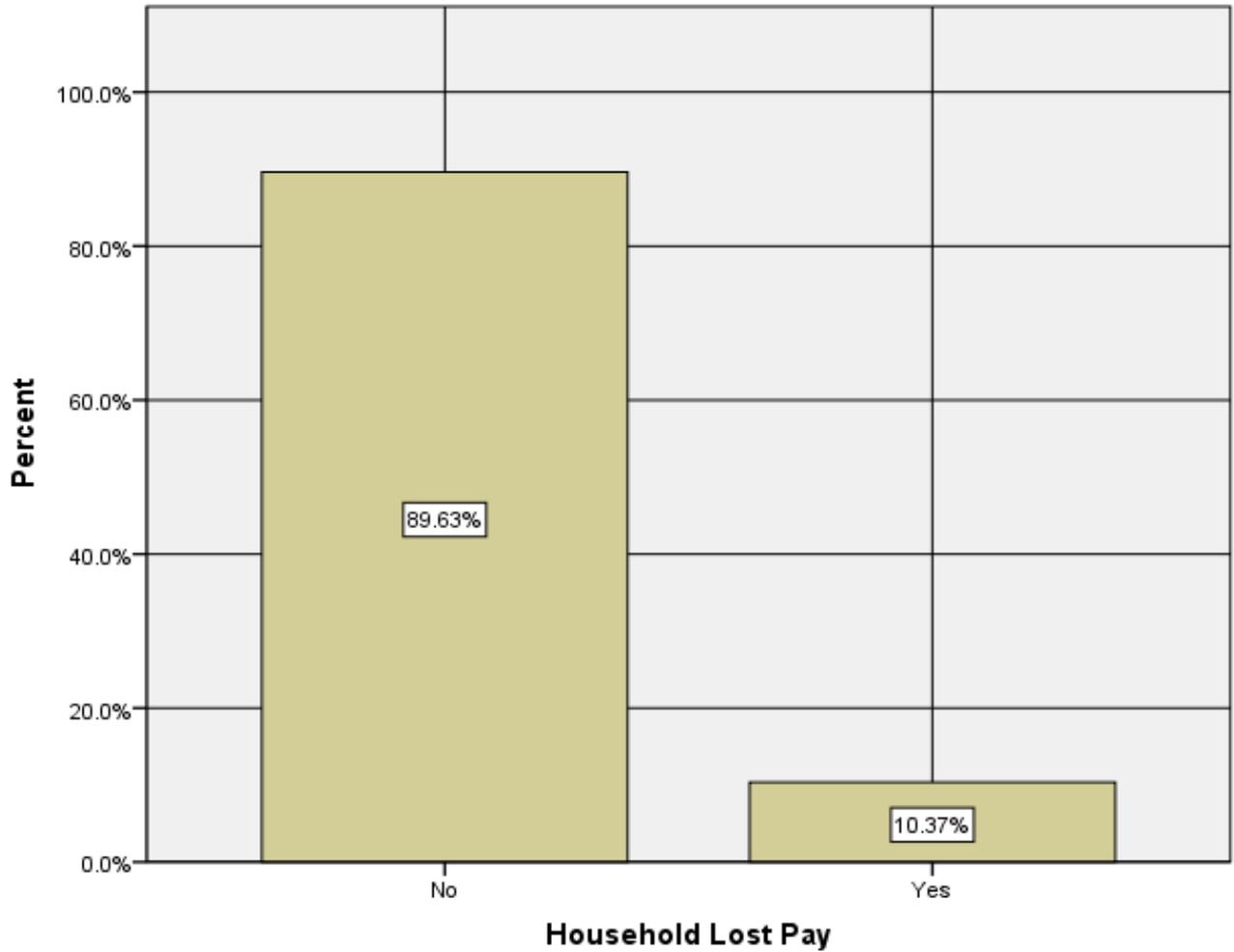
### Household Suffered Loss .. by .. Income

Households were asked several question related to the types of loss that the household may have suffered from Hurricane Irene. These households are disaggregated by household annual income. The following approximate percent of households report suffering loss: 37 percent low, 43 percent lower modest, 25 percent modest, 29 percent higher modest, and 43 percent high income categories.



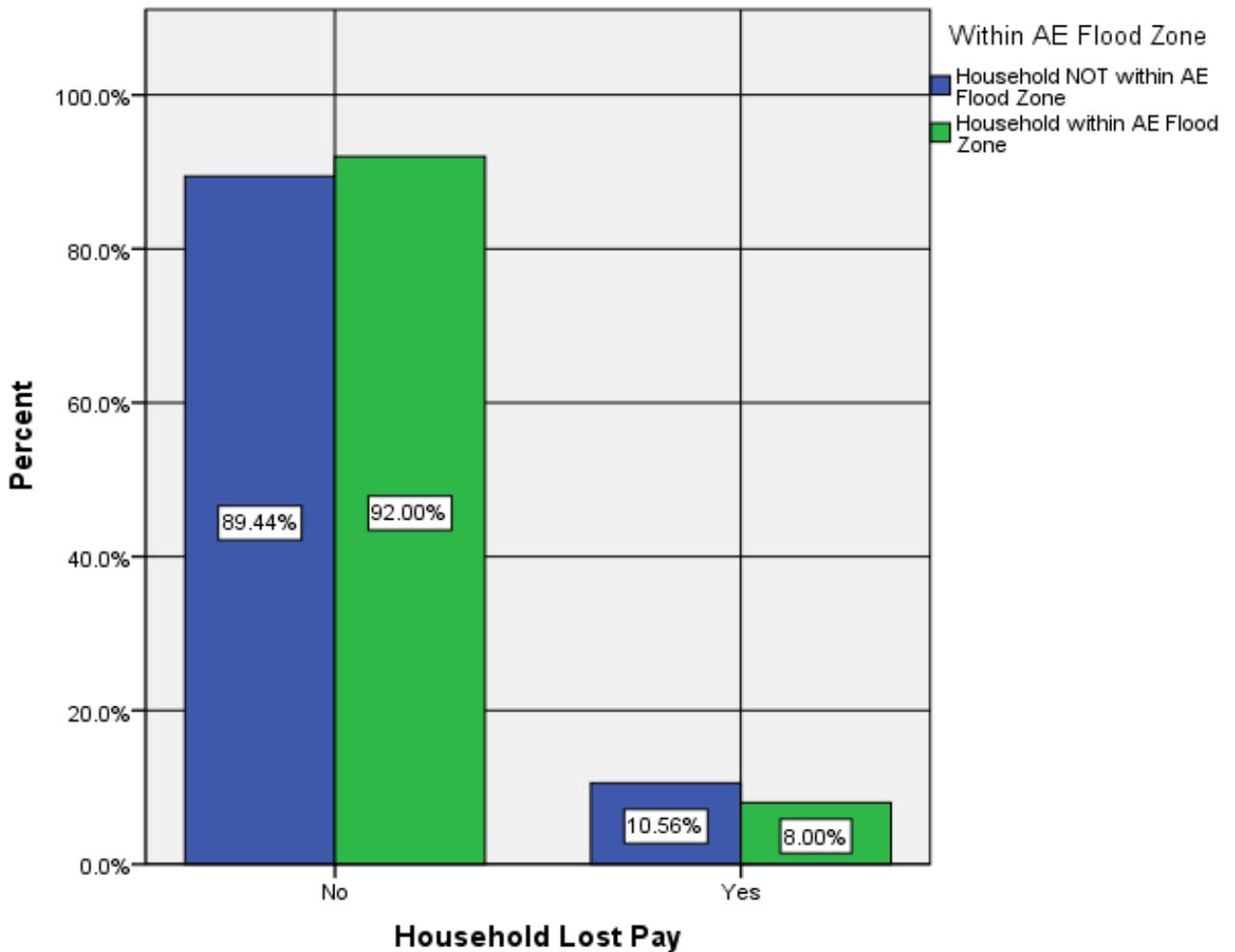
## Household Lost Pay

Households were asked whether or not they lost pay during Hurricane Irene. Over 10 percent of households report that they lost pay, while nearly 90 percent report that they didn't loss pay.



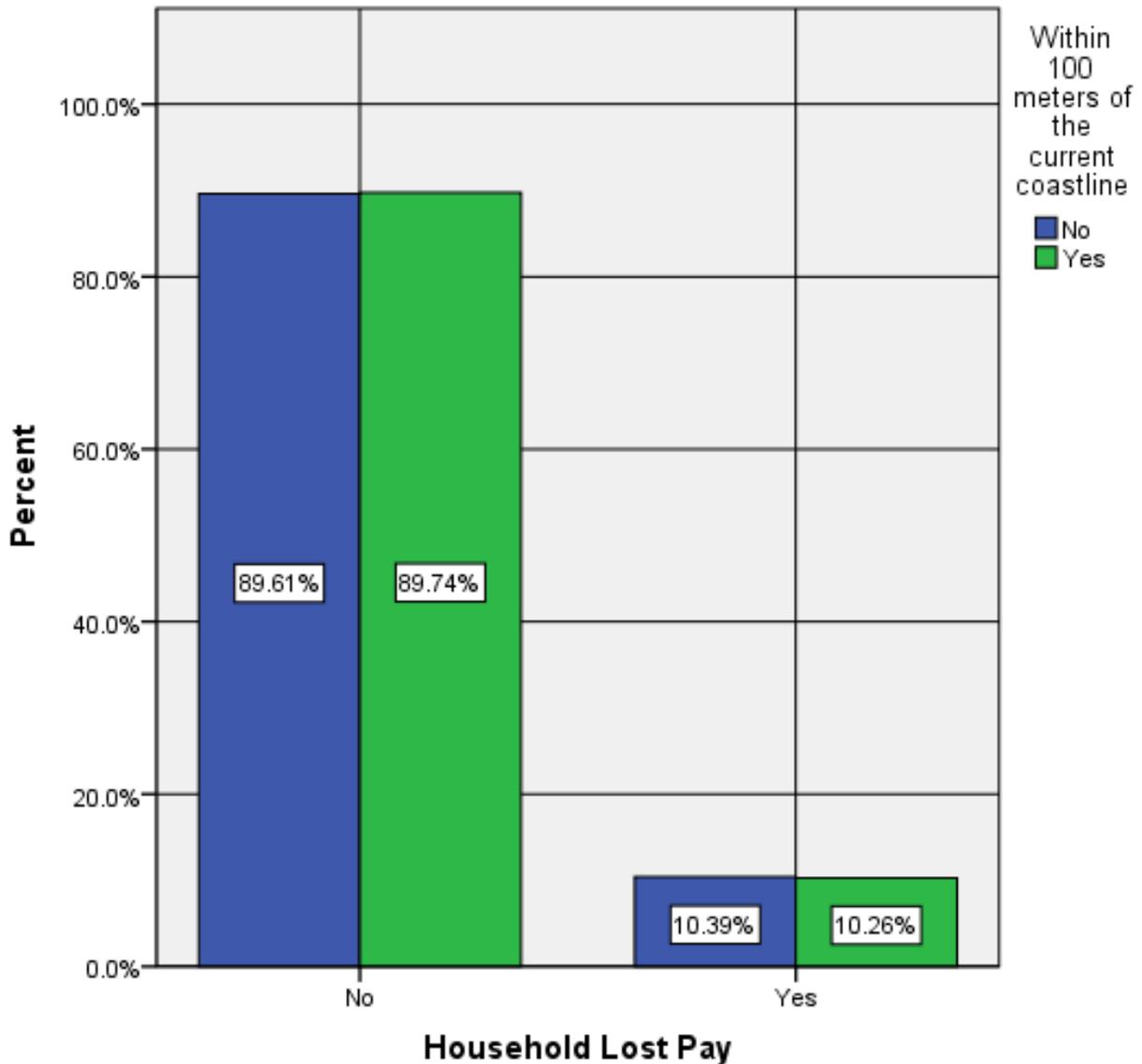
### Household Lost Pay .. by .. AE Flood Zone

Households were asked whether or not they lost pay during Hurricane Irene. These households are disaggregated by whether or not they are located within an AE flood zone. For those households located within the flood zone, 8 percent report that they lost pay, while 92 percent report that they didn't loss pay. For those households not located within the flood zone, approximately 11 percent report that they lost pay and about 89 percent report that they didn't loss pay.



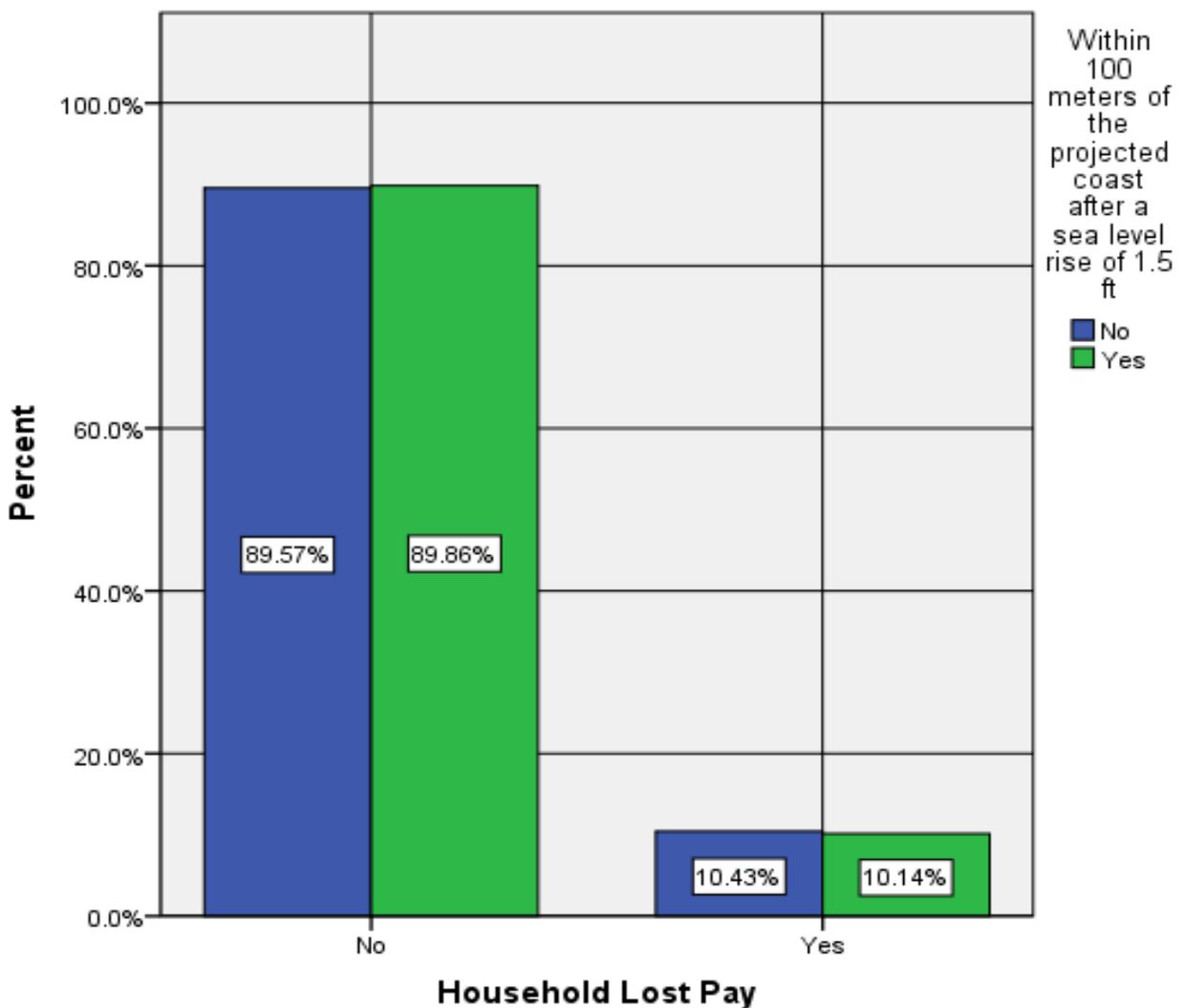
### Household Lost Pay .. by .. Within 100 Meters of the Current Coastline

Households were asked whether or not they lost pay during Hurricane Irene. These households are disaggregated based on whether or not they are located within 100 meters of the current coastline. For those households located within 100 meters of the current coastline, approximately 10 percent report that they lost pay, while nearly 90 percent report that they didn't loss pay. For those households not located within 100 meters of the current coastline, approximately 10 percent report that they lost pay and nearly 90 percent report that they didn't loss pay. This suggests that proximity to the current coastline does not condition the loss of pay.



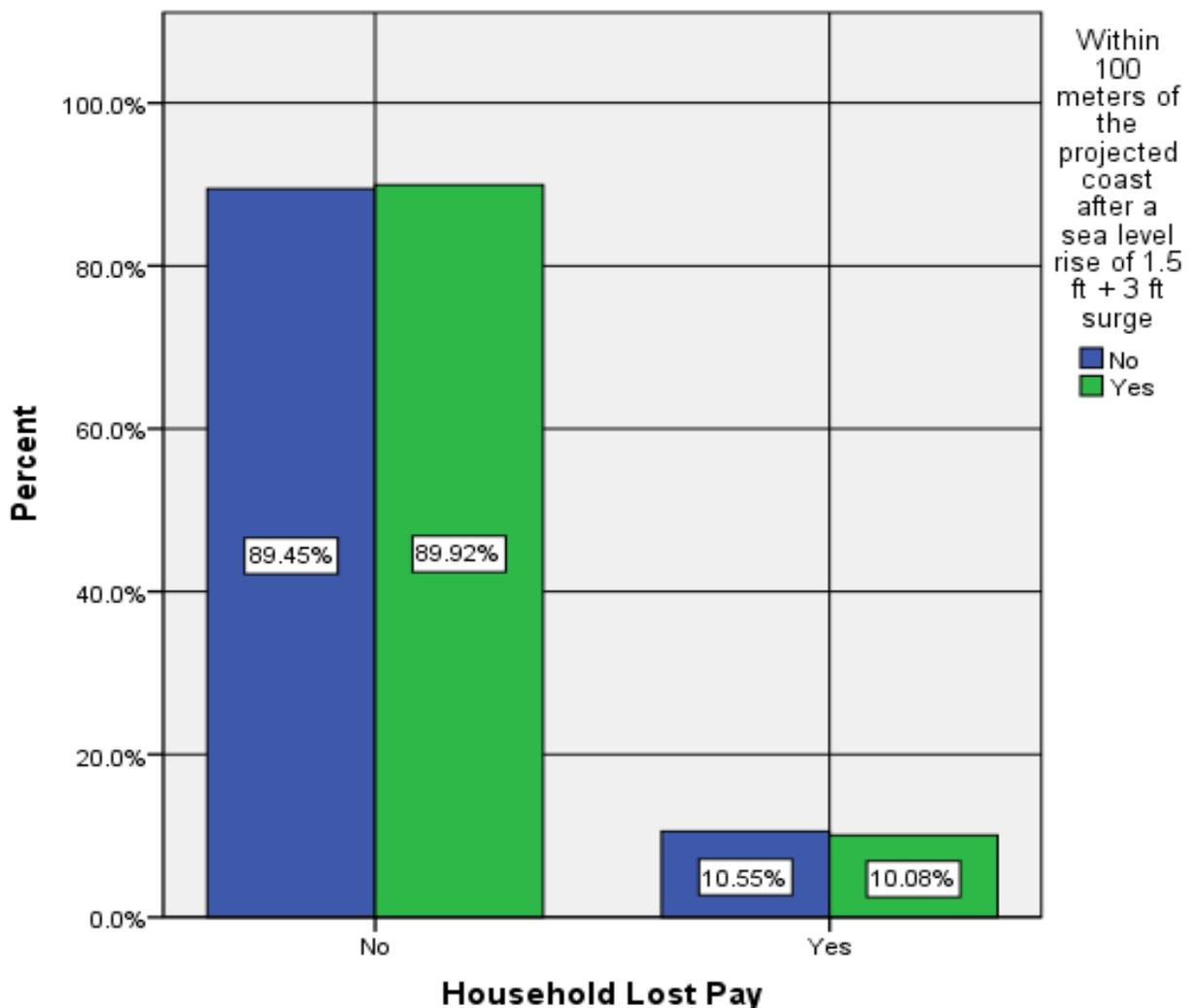
### Household Lost Pay .. by .. Within 100 Meters of the Projected SLR Coastline

Households were asked whether or not they lost pay during Hurricane Irene. These households are disaggregated based on whether or not they are located within 100 meters of the coastline. For those households located within 100 meters of the projected coastline after a sea level rise (SLR) of 1.5 feet, approximately 10 percent report that they lost pay, while nearly 90 percent report that they didn't loss pay. For those households not located within 100 meters of the projected SLR coastline, approximately 10 percent report that they lost pay, while nearly 90 percent report that they didn't loss pay. This suggests that proximity to the SLR coastline does not condition the loss of pay.



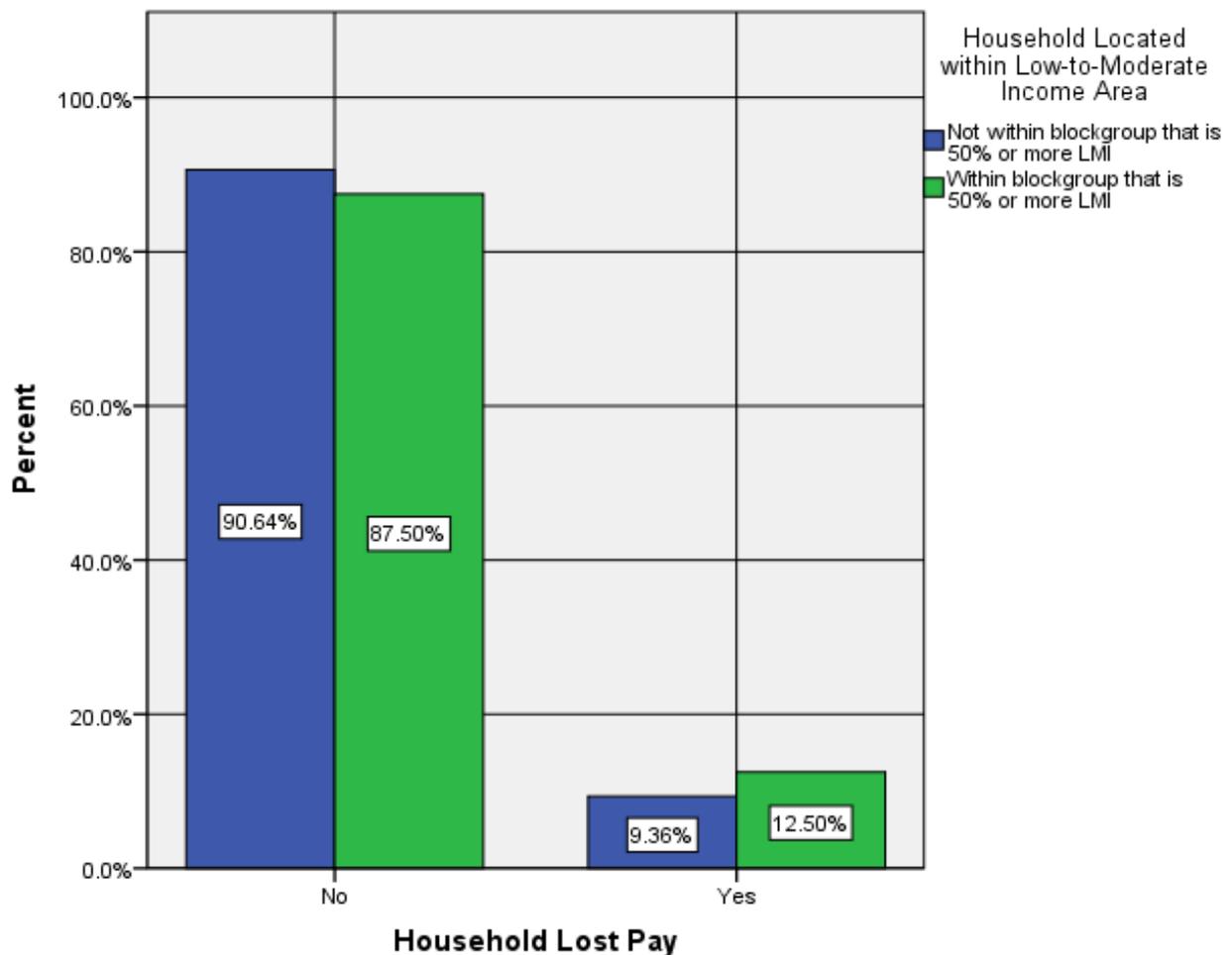
### Household Lost Pay .. by .. Within 100 Meters of the Projects SLR+Surge Coastline

Households were asked whether or not they lost pay during hurricane Irene. These households are disaggregated based on whether or not they are located within 100 meters of the projected coastline after a sea level rise (SLR) of 1.5 feet and a storm surge of 3 feet. For those households located within 100 meters of the projected SLR+Surge coastline, about 10 percent report that they lost pay during hurricane Irene, while nearly 90 percent report that they didn't loss pay during hurricane Irene. For those households that are not located within 100 meters of the projected SLR+Surge coastline, nearly 11 percent report that they lost pay and about 89 percent report that they didn't loss pay. This suggests that proximity to the SLR+Surge coastline does not condition the loss of pay.



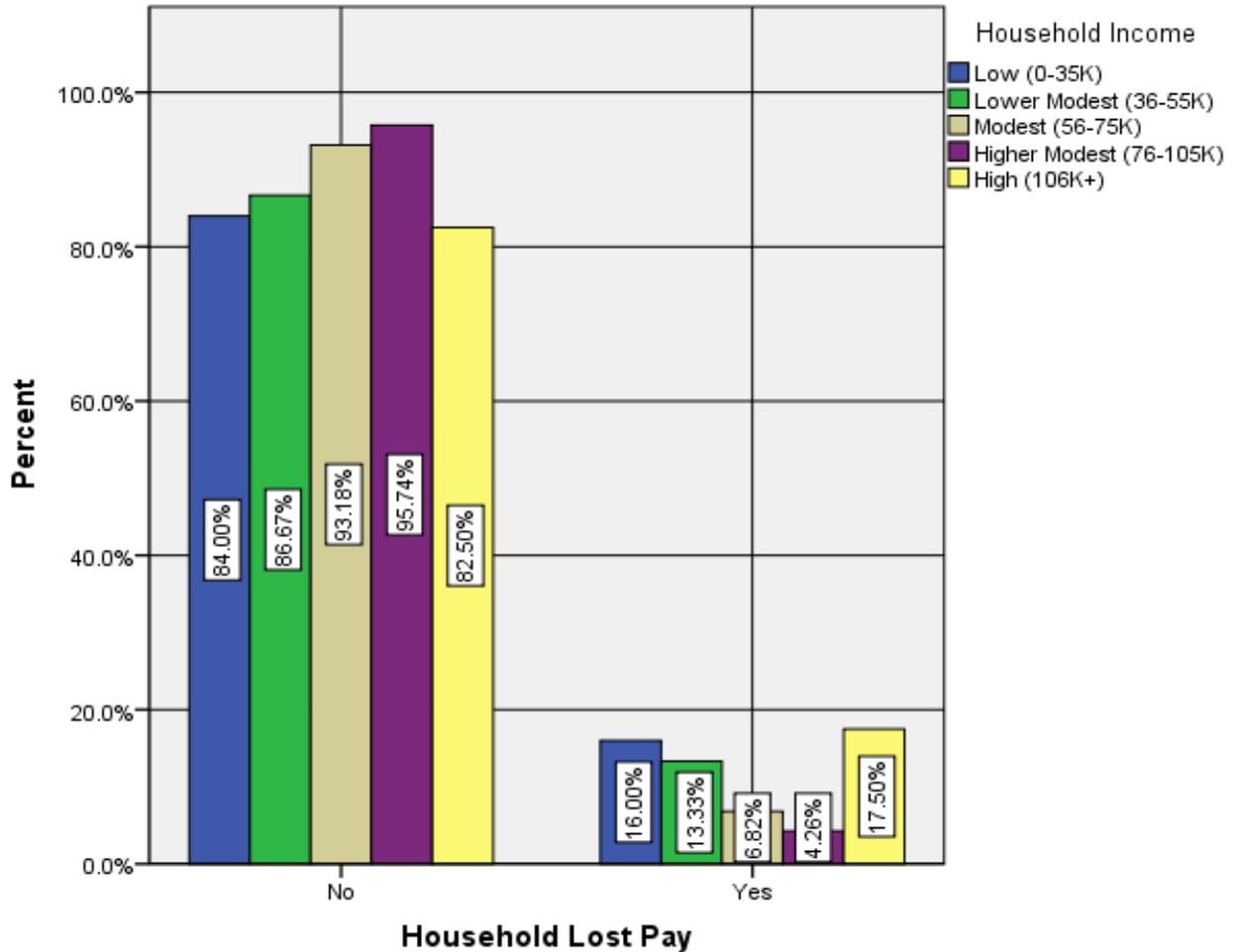
### Household Lost Pay .. by .. LMI Area

Households were asked whether or not they lost pay during hurricane Irene. These households are disaggregated by whether or not they are located within a low-to-moderate income block group. For those households located within a low-to-moderate income block group, nearly 13 percent report that they lost pay, while nearly 88 percent report that they didn't loss pay. For those households that are not located within a low-to-moderate income block group, about 9 percent report that they lost pay and about 91 percent report that they didn't loss pay. This suggests that households within LMI block groups are more likely to report loss pay relative those households not residing in LMI block groups.



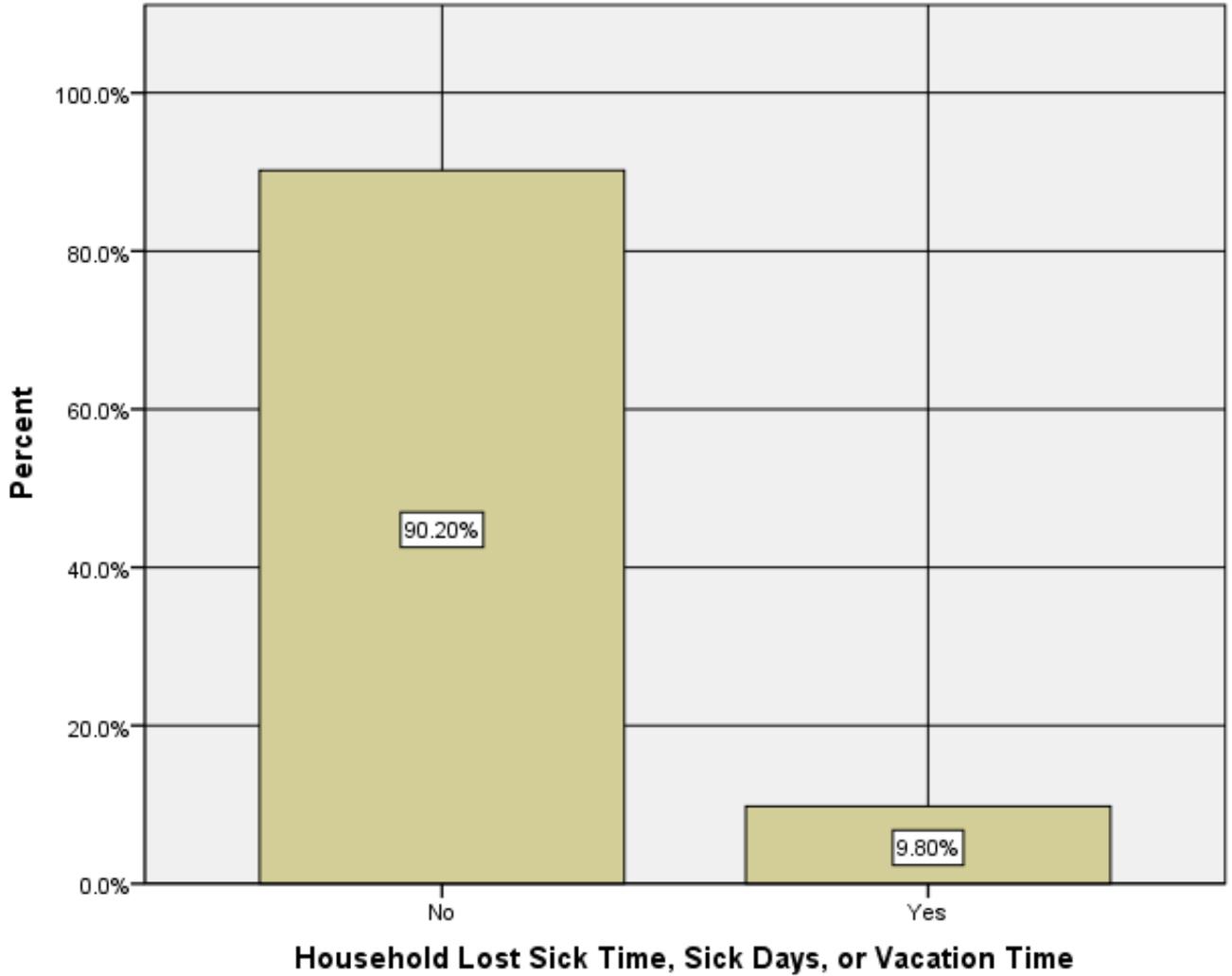
### Household Lost Pay .. by .. Income

Households were asked whether or not they lost pay during hurricane Irene. These households are disaggregated by household annual income. The following approximate percent of households report losing pay: 16 percent low, 13 percent lower modest, 7 percent modest, 4 percent higher modest, and 17 percent high. The low income households are the most likely to report losing pay.



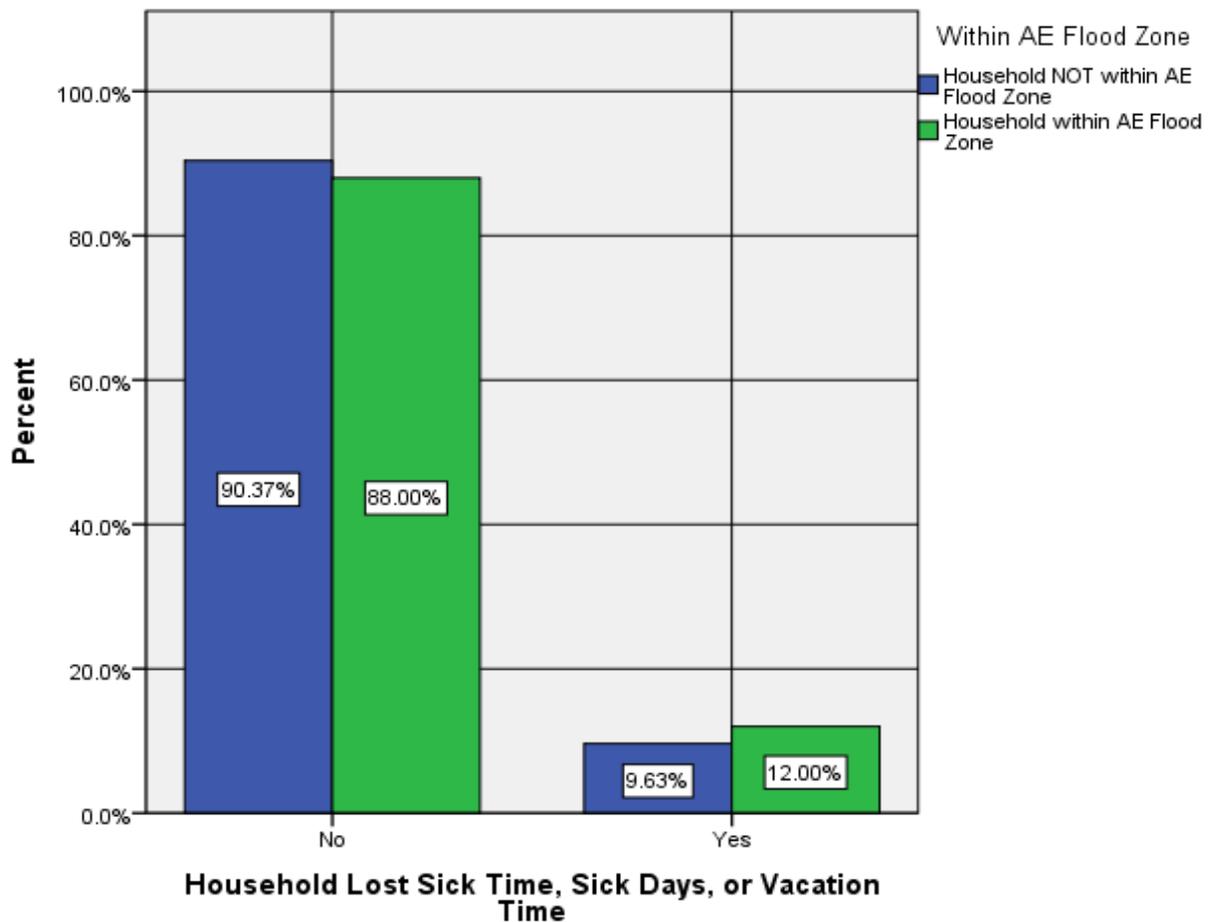
### Household Lost Sick Time (ST), Sick Days (SD), or Vacation Time (VT)

Households were asked whether or not they lost sick (ST), sick days (SD), or vacation time (VT) due to Hurricane Irene. Nearly 10 percent of households report that they lost ST, SD, or VT, while about 90 percent report that they didn't loss ST, SD, or VT.



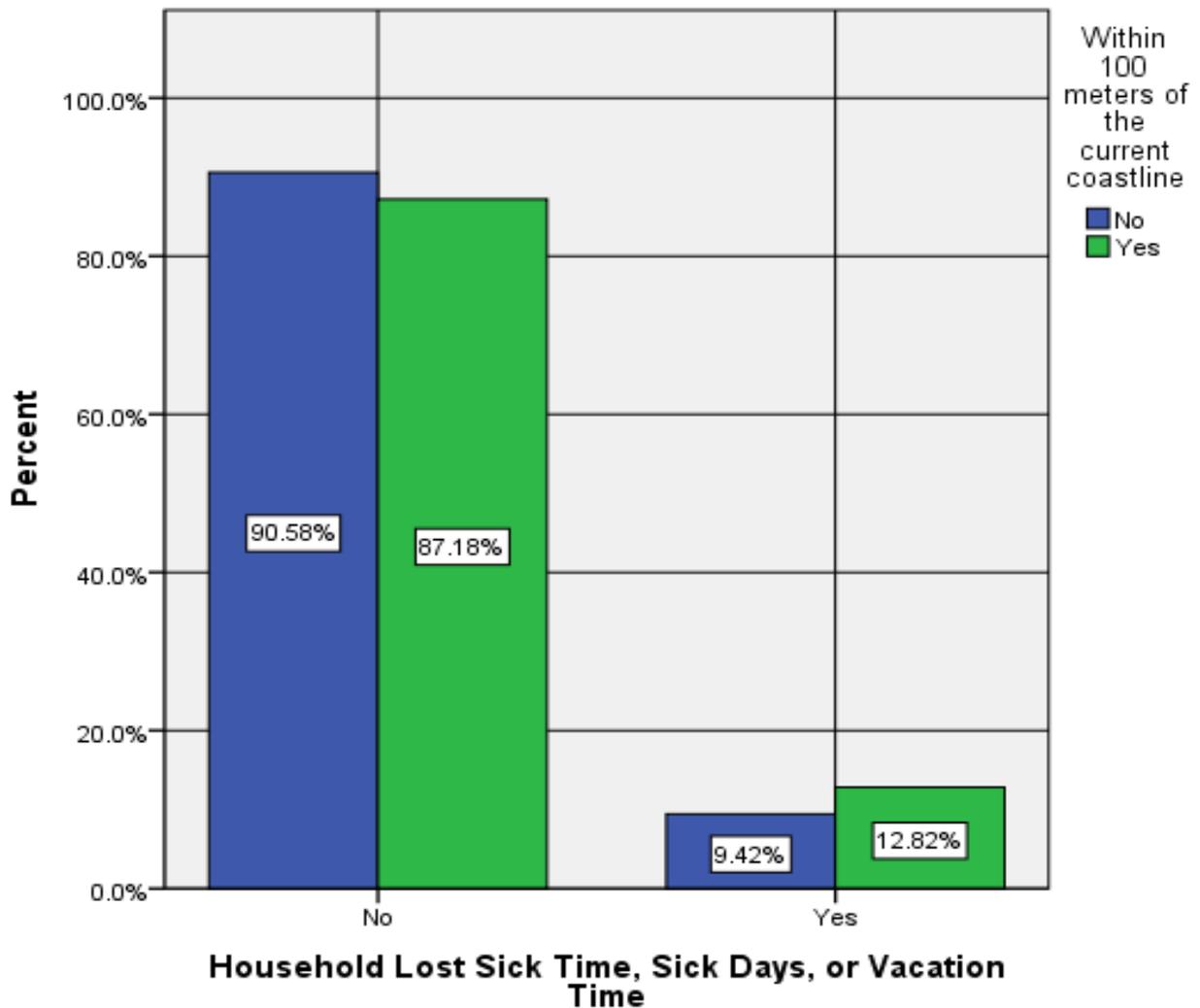
### Household Lost ST, SD, or VT .. by .. AE Flood Zone

Households were asked whether or not they lost sick (ST), sick days (SD), or vacation time (VT) due to Hurricane Irene. These households are disaggregated based on whether or not they are located within an AE flood zone. For those households located within the flood zone, 12 percent report that they lost ST, SD, or VT, while 88 percent report that they didn't loss ST, SD, or VT. For those households not located within the flood zone, nearly 10 percent report that they lost ST, SD, or VT and about 90 percent report that they didn't loss ST, SD, or VT.



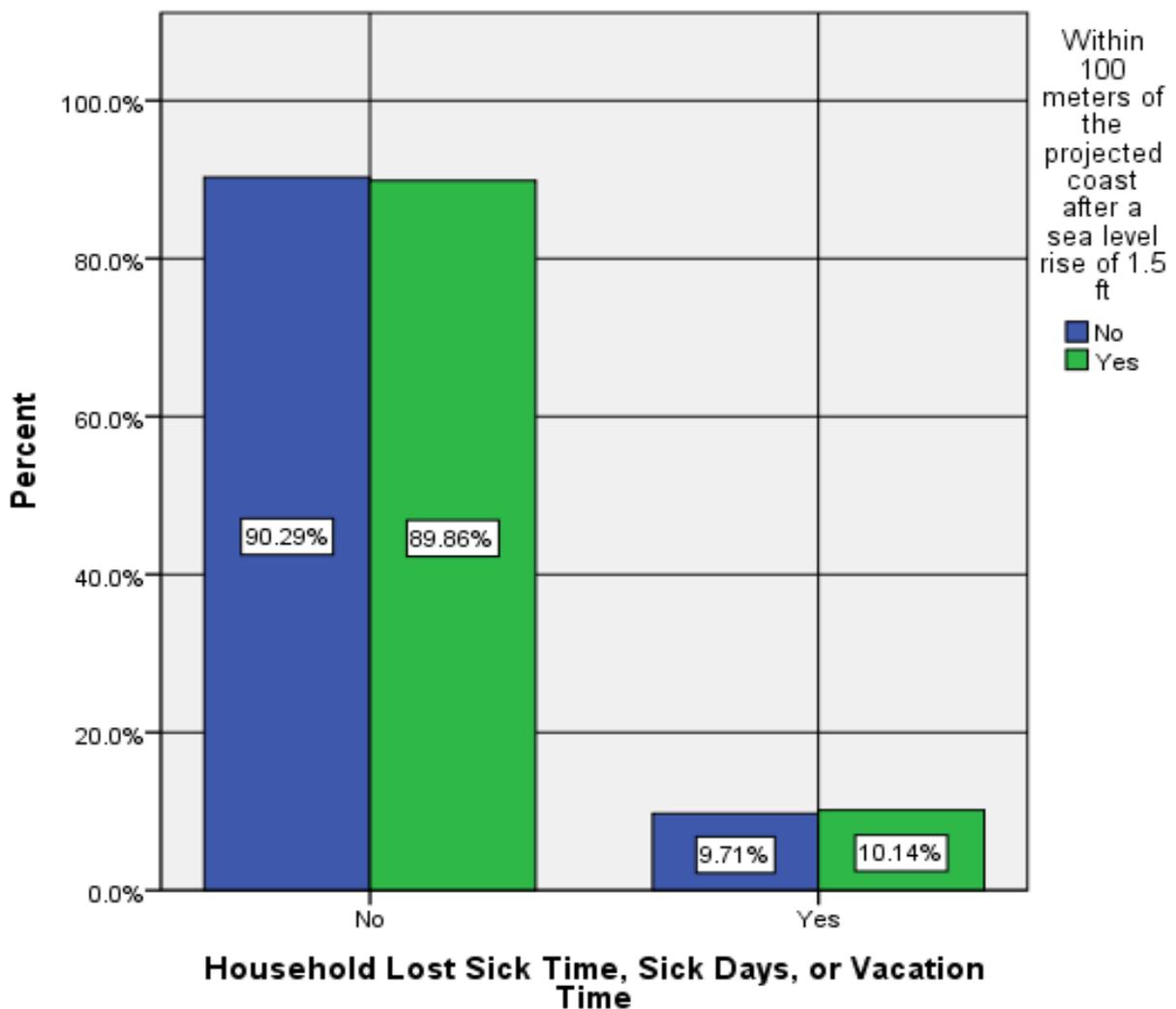
### Household Lost ST, SD, or VT .. by .. Within 100 Meters of the Current Coastline

Households were asked whether or not they lost sick (ST), sick days (SD), or vacation time (VT) due to Hurricane Irene. These households are disaggregated based on whether or not they are located within 100 meters of the current coastline. For those households located within 100 meters of the current coastline, nearly 13 percent report that they lost ST, SD or VT, while approximately 87 percent report that they didn't loss ST, SD, or VT. For those households that are not located within 100 meters of the current coastline, about 9 percent report that they lost ST, SD or VT and nearly 91 percent report that they didn't loss ST, SD or VT.



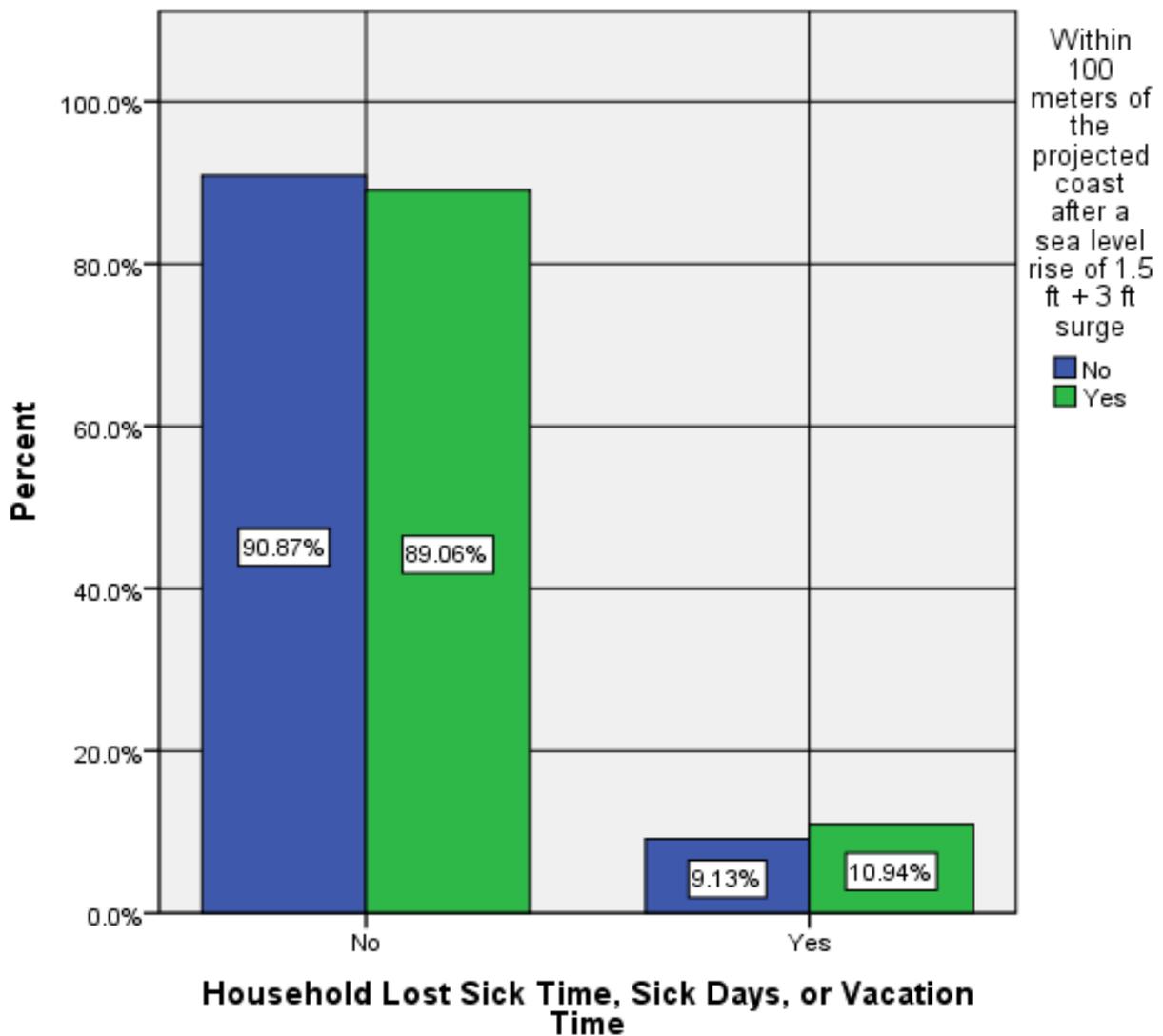
### Household Lost ST, SD, or VT .. by .. Within 100 Meters of the Projected SLR Coastline

Households were asked whether or not they lost sick (ST), sick days (SD), or vacation time (VT) due to Hurricane Irene. These households are disaggregated based on whether or not they are located within 100 meters of the projected coastline after a sea level rise (SLR) of 1.5 feet. For those households located within 100 meters of the projected SLR coastline, about 10 percent report that they lost ST, SD or VT, while approximately 90 percent report that they didn't loss ST, SD, or VT. For those households that are not located within 100 meters of the projected SLR coastline, about 10 percent report that they lost ST, SD or VT and about 90 percent report that they didn't loss ST, SD or VT.



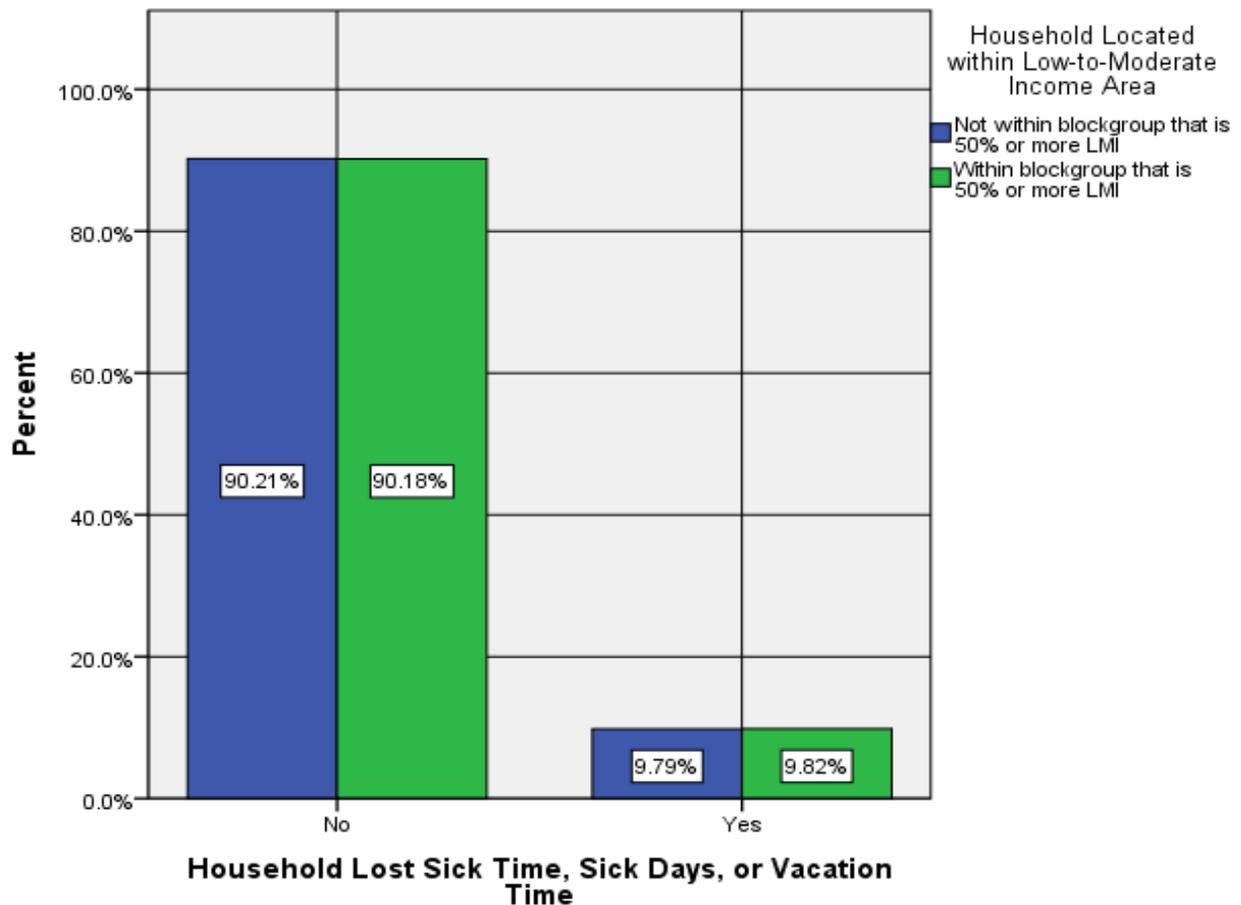
### Household Lost ST, SD, or VT .. by .. Within 100 Meters of the Projects SLR+Surge Coastline

Households were asked whether or not they lost sick (ST), sick days (SD), or vacation time (VT) due to Hurricane Irene. These households are disaggregated based on whether or not they are located within 100 meters of the projected coastline after a sea level rise (SLR) of 1.5 feet and a storm surge of 3 feet. For those households located within 100 meters of the projected SLR+Surge coastline, about 11 percent report that they lost ST, SD or VT, while approximately 89 percent report that they didn't loss ST, SD, or VT. For those households that are not located within 100 meters of the projected SLR+Surge coastline, about 9 percent report that they lost ST, SD or VT and about 91 percent report that they didn't loss ST, SD or VT.



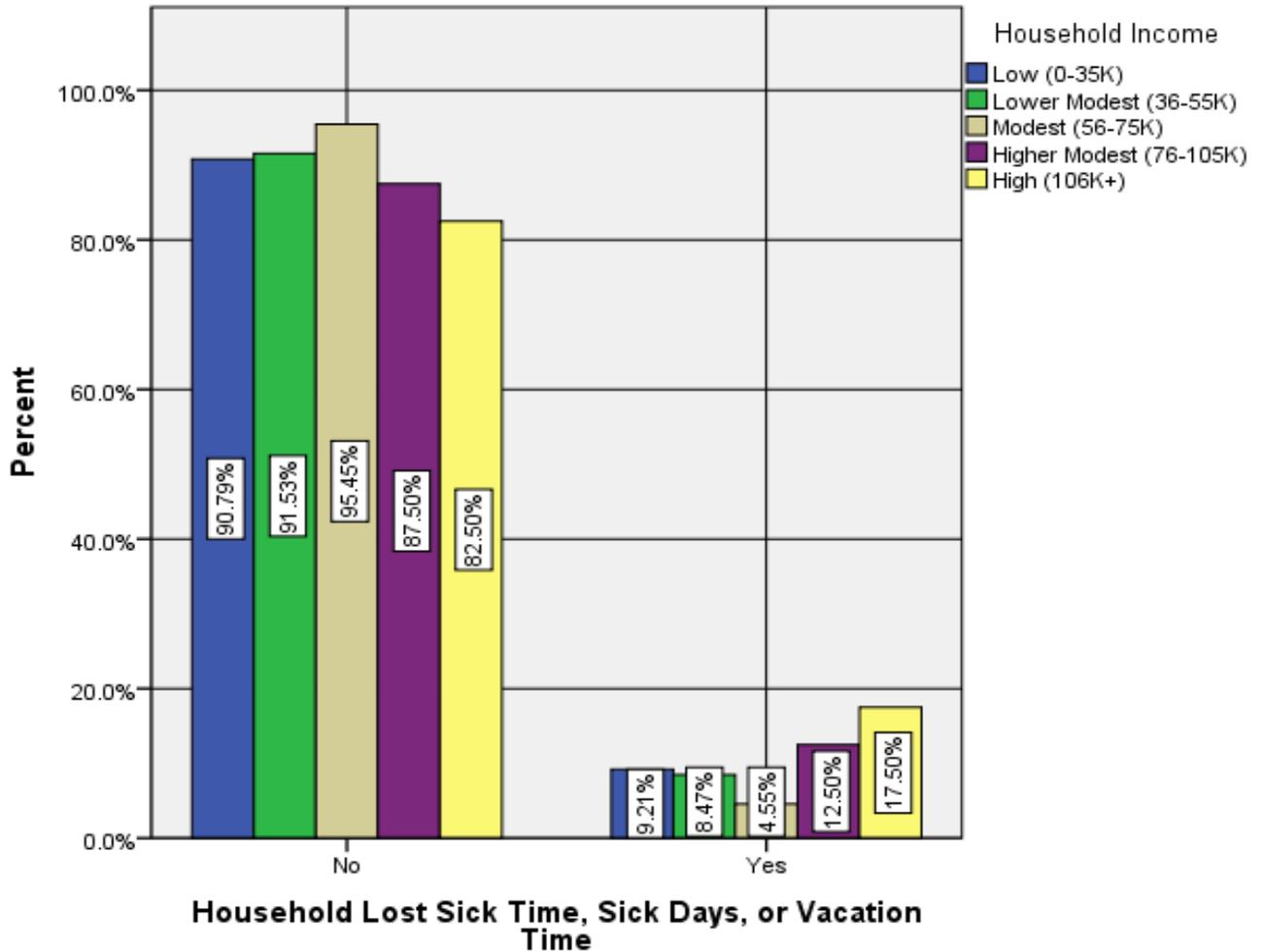
### Household Lost ST, SD, or VT .. by .. LMI Area

Households were asked whether or not they lost sick (ST), sick days (SD), or vacation time (VT) due to Hurricane Irene. These households are disaggregated by whether or not they are located within a low-to-moderate income block group. For those households located within a low-to-moderate income block group, about 10 percent report that they lost ST, SD or VT, while about 90 percent report that they didn't loss ST, SD or VT. For those households that are not located within a low-to-moderate income block group, nearly 10 percent report that they lost ST, SD or VT and about 90 percent report that they didn't loss ST, SD or VT.



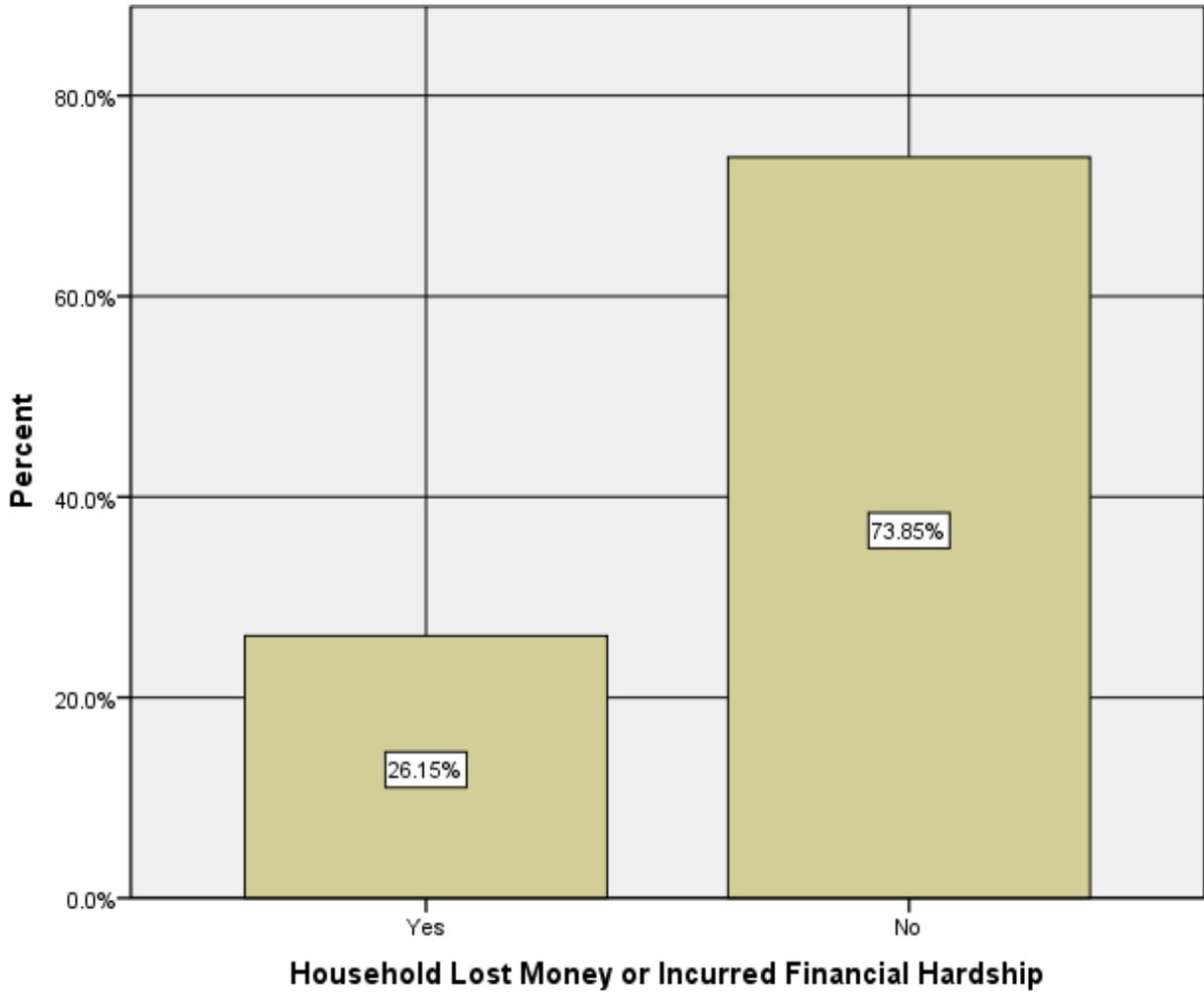
### Household Lost ST, SD, or VT .. by .. Income

Households were asked whether or not they lost sick (ST), sick days (SD), or vacation time (VT) due to Hurricane Irene. These households are disaggregated by household annual income. The following approximate percent of households report lost ST, SD or VT: 9 percent low, 8 percent lower modest, 5 percent modest, 13 percent higher modest, and 18 percent high.



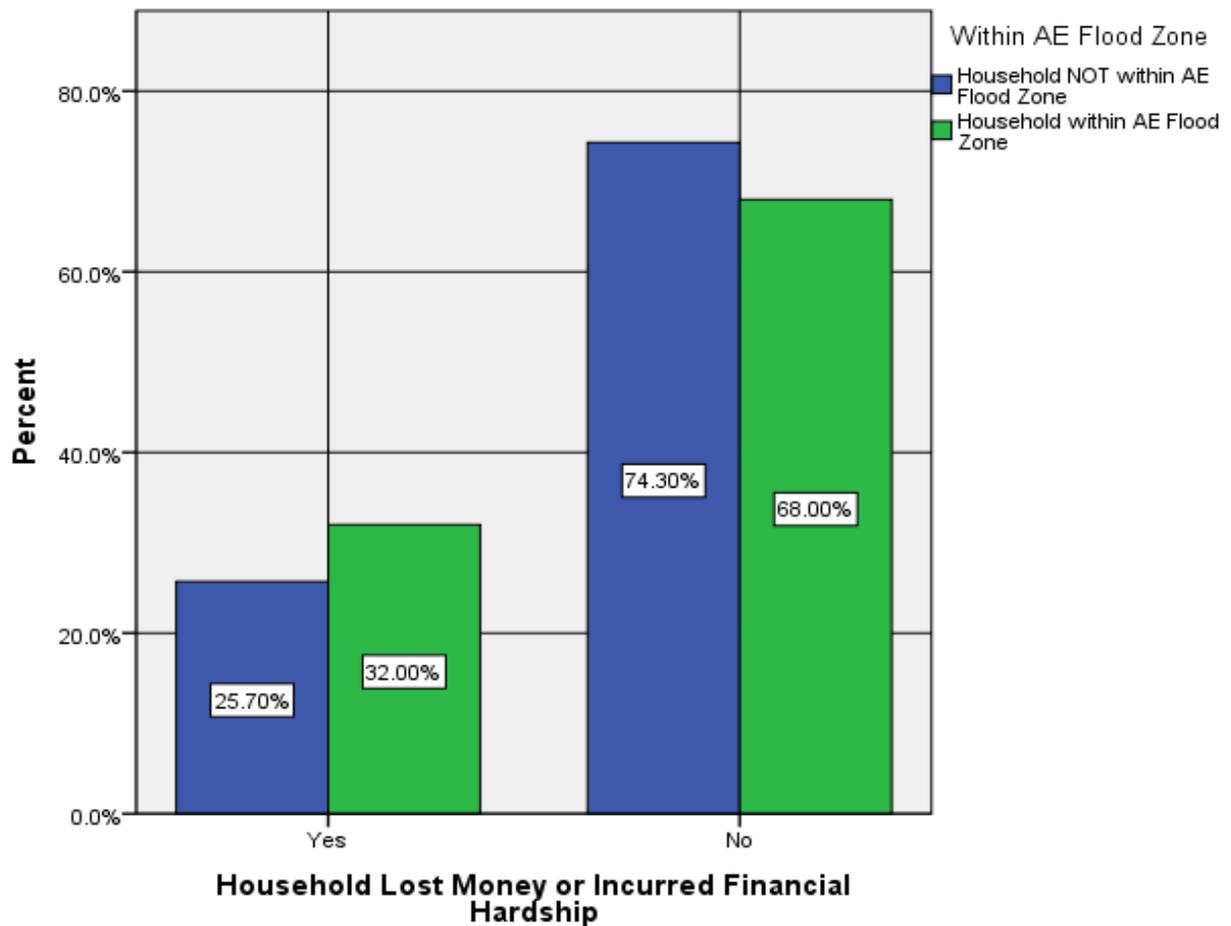
### Household Lost Money or Incurred Financial Hardship

Households were asked whether or not they lost money or incurred financial hardship from Hurricane Irene. About 26 percent of households report that they lost money or incurred financial hardship, while nearly 74 percent report that they had not lost money or incurred financial hardship.



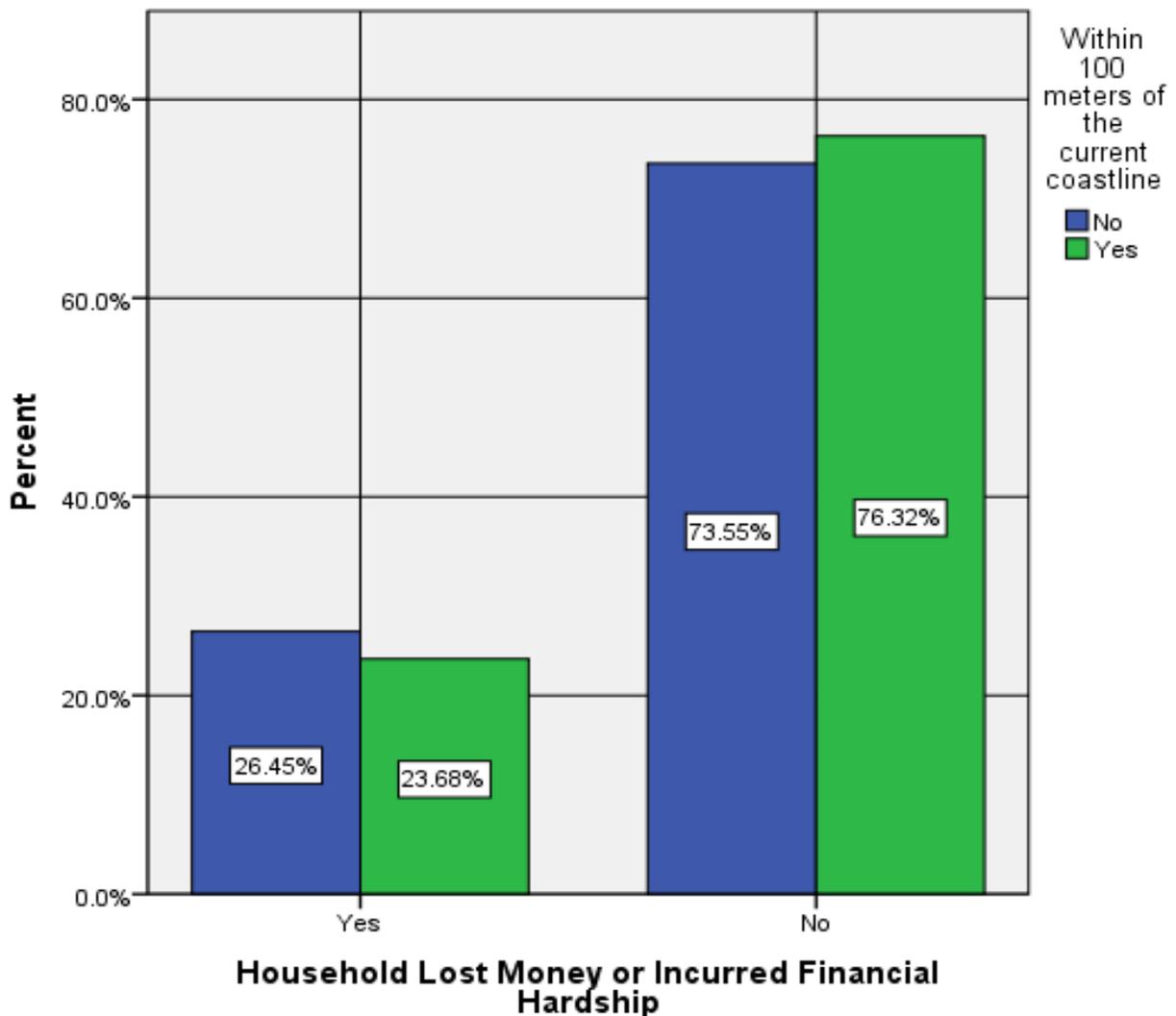
### Household Lost \$ or Incurred Financial Hardship .. by .. AE Flood Zone

Households were asked whether or not they lost money or incurred financial hardship from Hurricane Irene. These households are disaggregated based on whether or not they are located within an AE flood zone. For those households located within the flood zone, 32 percent report that they lost money or incurred financial hardship, while 68 percent report that they didn't lose money or incur financial hardship. For those households not located within the flood zone, nearly 26 percent report that they lost money or incurred financial hardship and about 74 percent report that they didn't lose money or incur financial hardship.



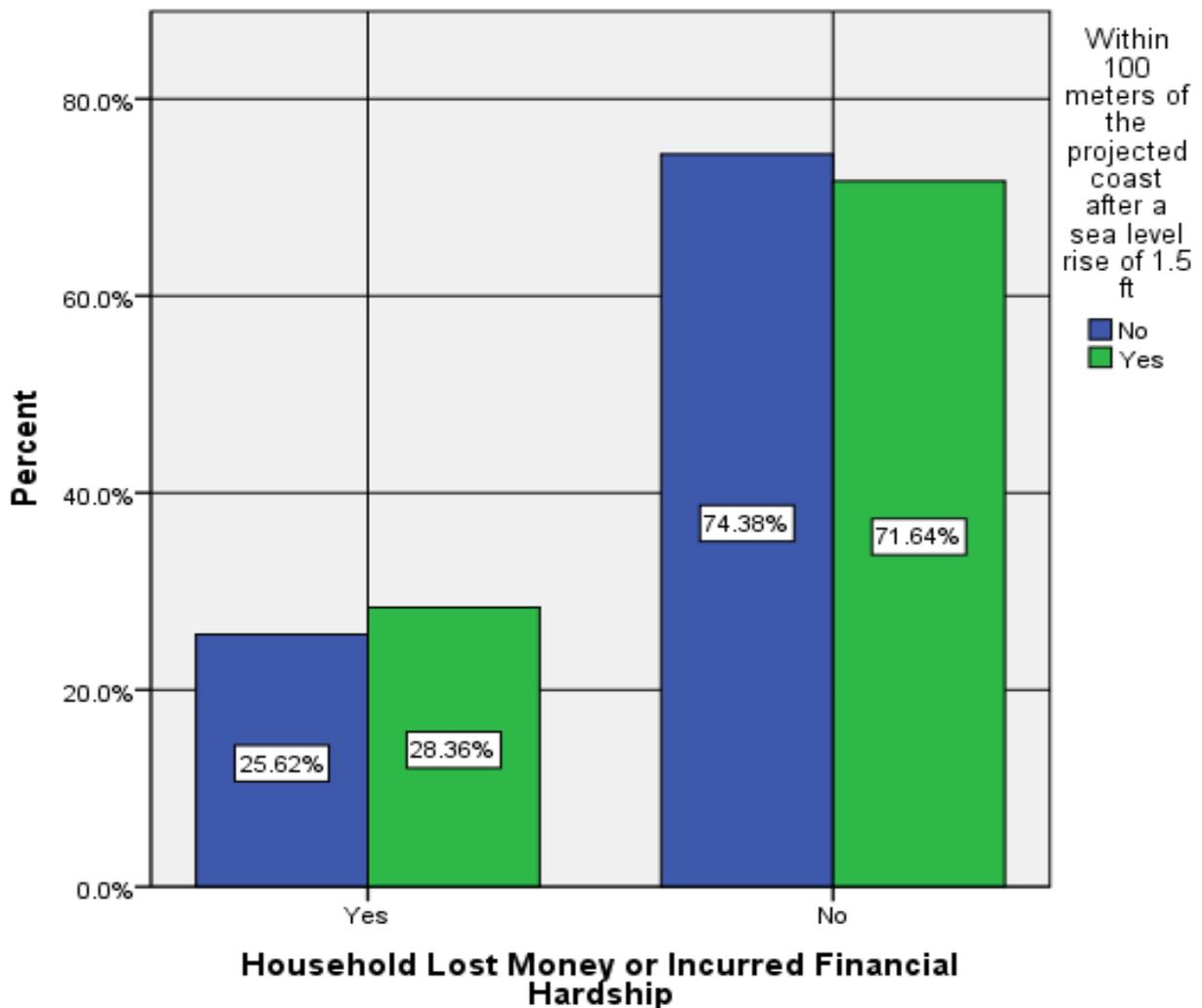
### Household Lost \$ or Incurred Financial Hardship .. by .. Within 100m of the Current Coastline

Households were asked whether or not they lost money or incurred financial hardship from Hurricane Irene. These households are disaggregated based on whether or not they are located within 100 meters of the current coastline. For those households located within 100 meters of the current coastline, nearly 24 percent report that they lost money or incurred financial hardship, while approximately 76 percent report that they didn't lose money or incur financial hardship. For those households that are not located within 100 meters of the current coastline, about 26 percent report that they lost money or incurred financial hardship and approximately 74 percent report that they didn't lose money or incur financial hardship.



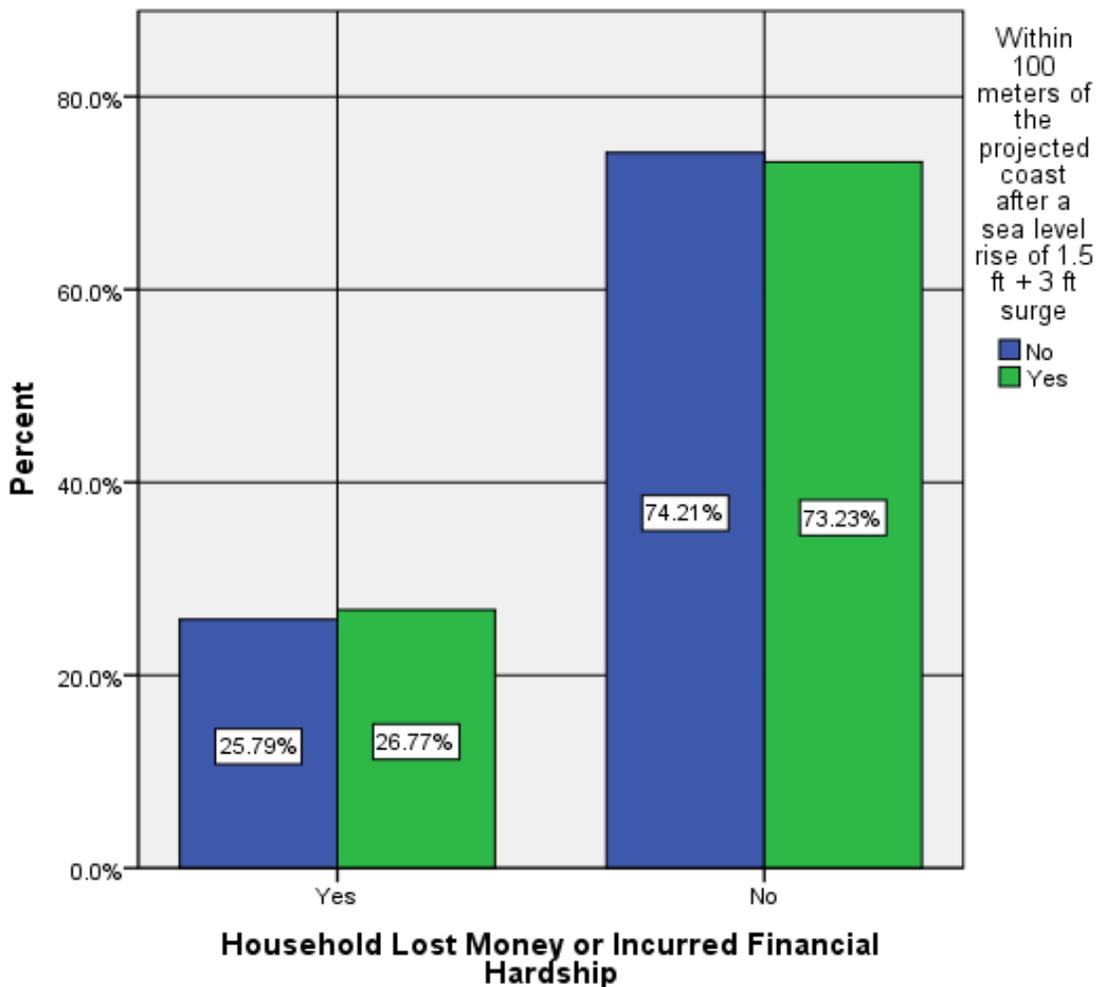
### Household Lost \$ or Incurred Financial Hardship .. by .. Within 100m of the Projected SLR Coastline

Households were asked whether or not they lost money or incurred financial hardship from Hurricane Irene. These households are disaggregated based on whether or not they are located within 100 meters of the projected coastline after a sea level rise (SLR) of 1.5 feet. For those households located within 100 meters of the projected SLR coastline, about 28 percent report that they lost money or incurred financial hardship, while approximately 72 percent report that they didn't lose money or incur financial hardship. For those households that are not located within 100 meters of the projected SLR coastline, about 26 percent report that they lost money or incurred financial hardship and about 74 percent report that they didn't lose money or incur financial hardship.



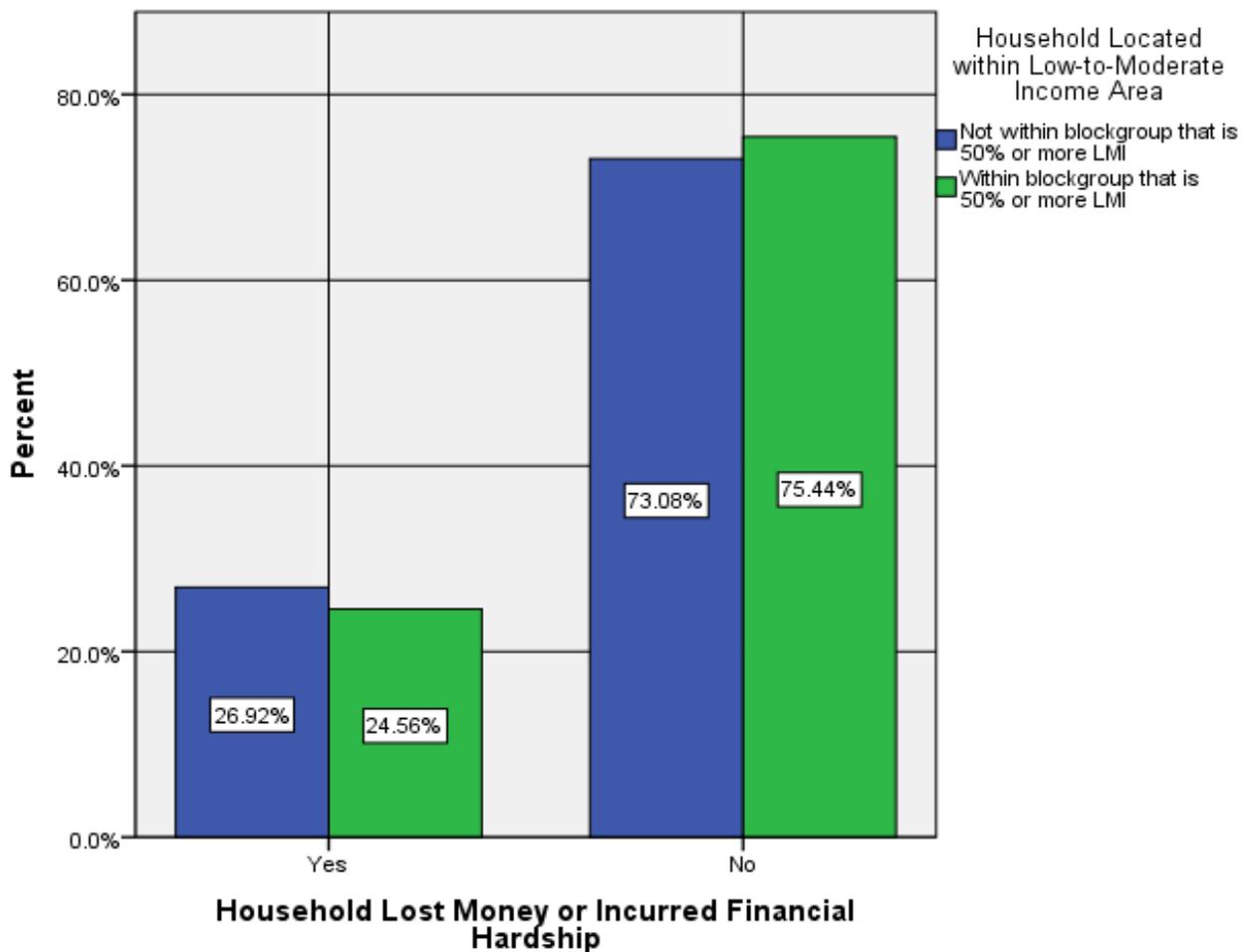
### Household Lost \$ or Incurred Financial Hardship .. by .. Within 100m Projects SLR+Surge Coastline

Households were asked whether or not they lost money or incurred financial hardship from Hurricane Irene. These households are disaggregated based on whether or not they are located within 100 meters of the projected coastline after a sea level rise (SLR) of 1.5 feet and a storm surge of 3 feet. For those households located within 100 meters of the projected SLR+Surge coastline, about 27 percent report that they lost money or incurred financial hardship, while about 73 percent report that they didn't lose money or incur financial hardship. For those households that are not located within 100 meters of the projected SLR+Surge coastline, nearly 26 percent report that they lost money or incurred financial hardship and about 74 percent report that they didn't lose money or incur financial hardship.



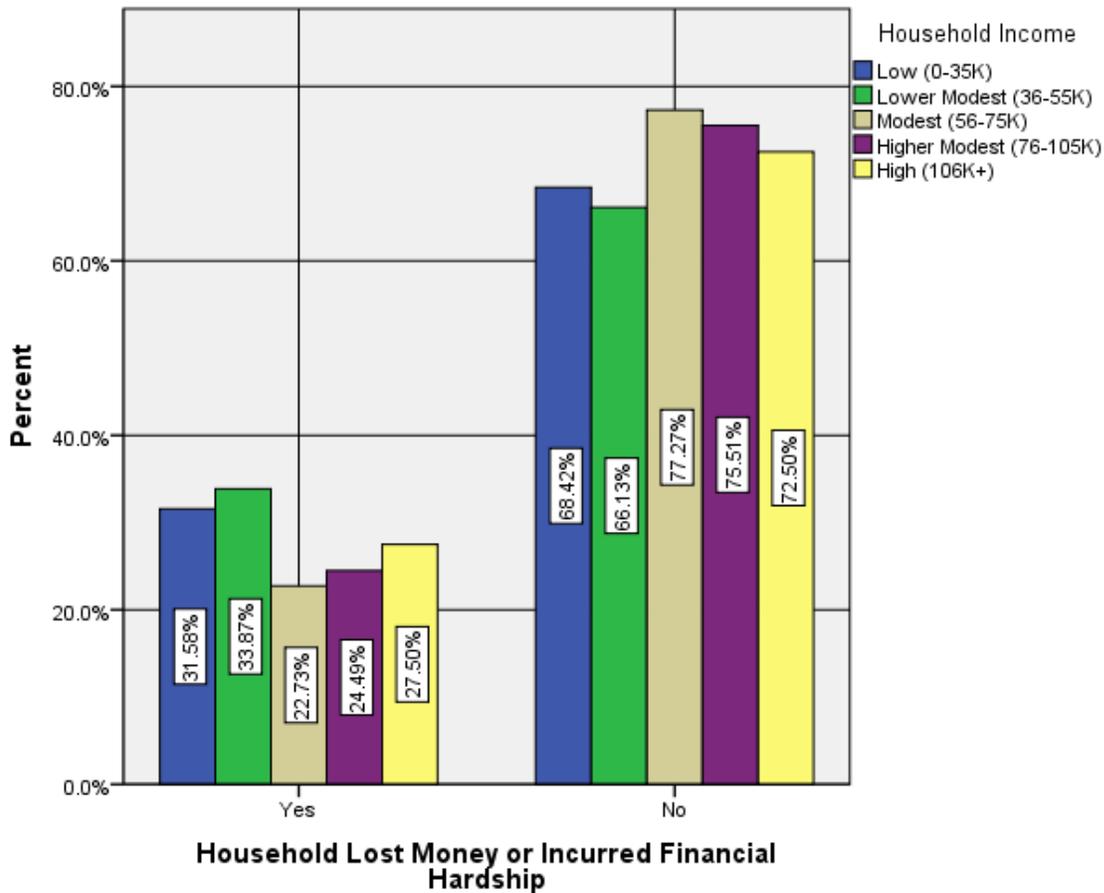
### Household Lost \$ or Incurred Financial Hardship .. by .. LMI Area

Households were asked whether or not they lost money or incurred financial hardship from Hurricane Irene. These households are disaggregated by whether or not they are located within a low-to-moderate income block group. For those households located within a low-to-moderate income block group, about 25 percent report that they lost money or incurred financial hardship, while about 75 percent report that they didn't lose money or incur financial hardship. For those households that are not located within a low-to-moderate income block group, about 27 percent report that they lost money or incurred financial hardship and about 73 percent report that they didn't lose money or incur financial hardship.



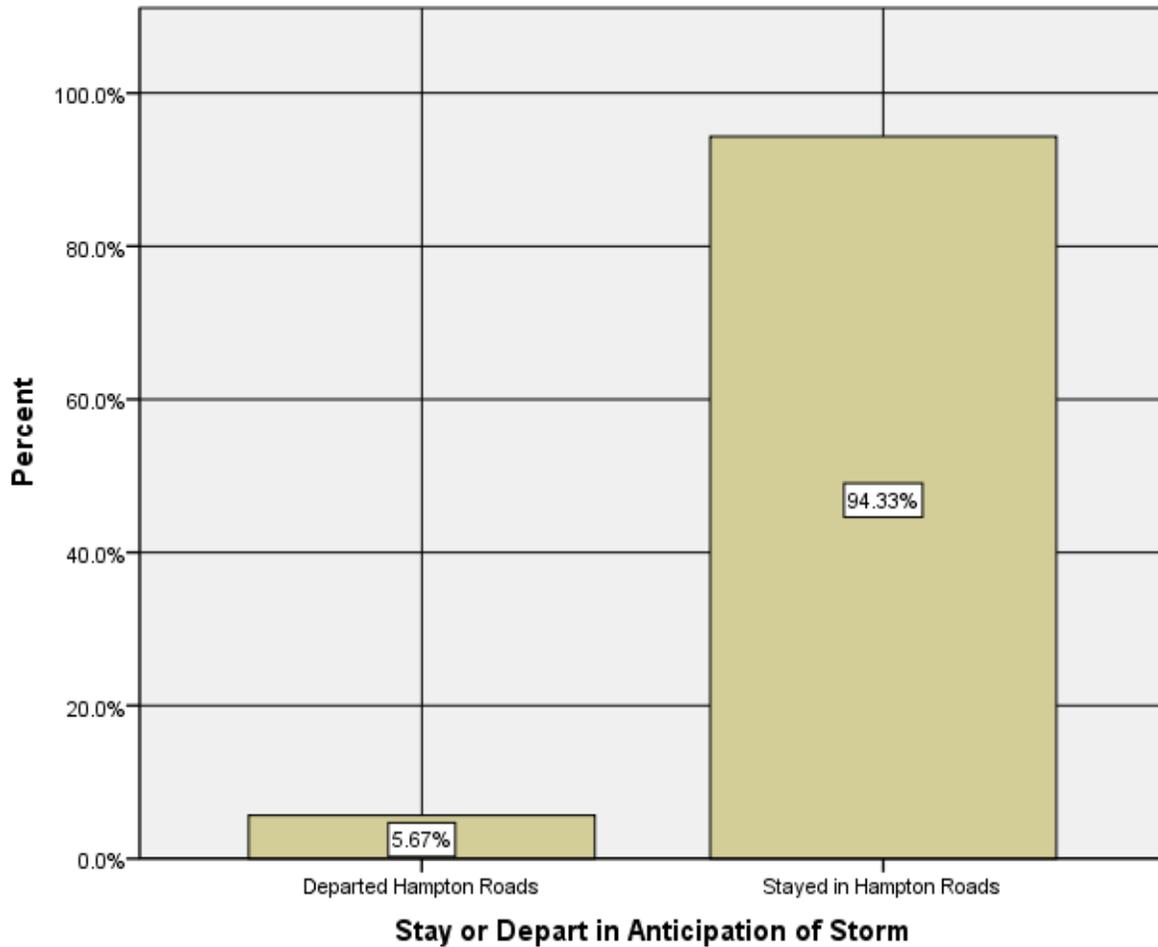
### Household Lost \$ or Incurred Financial Hardship .. by .. Income

Households were asked whether or not they lost money or incurred financial hardship from Hurricane Irene. These households are disaggregated by household annual income. The following approximate percent of households report they lost money or incurred financial hardship: 32 percent low, 34 percent lower modest, 23 percent modest, 25 percent higher modest, and 27 percent high.



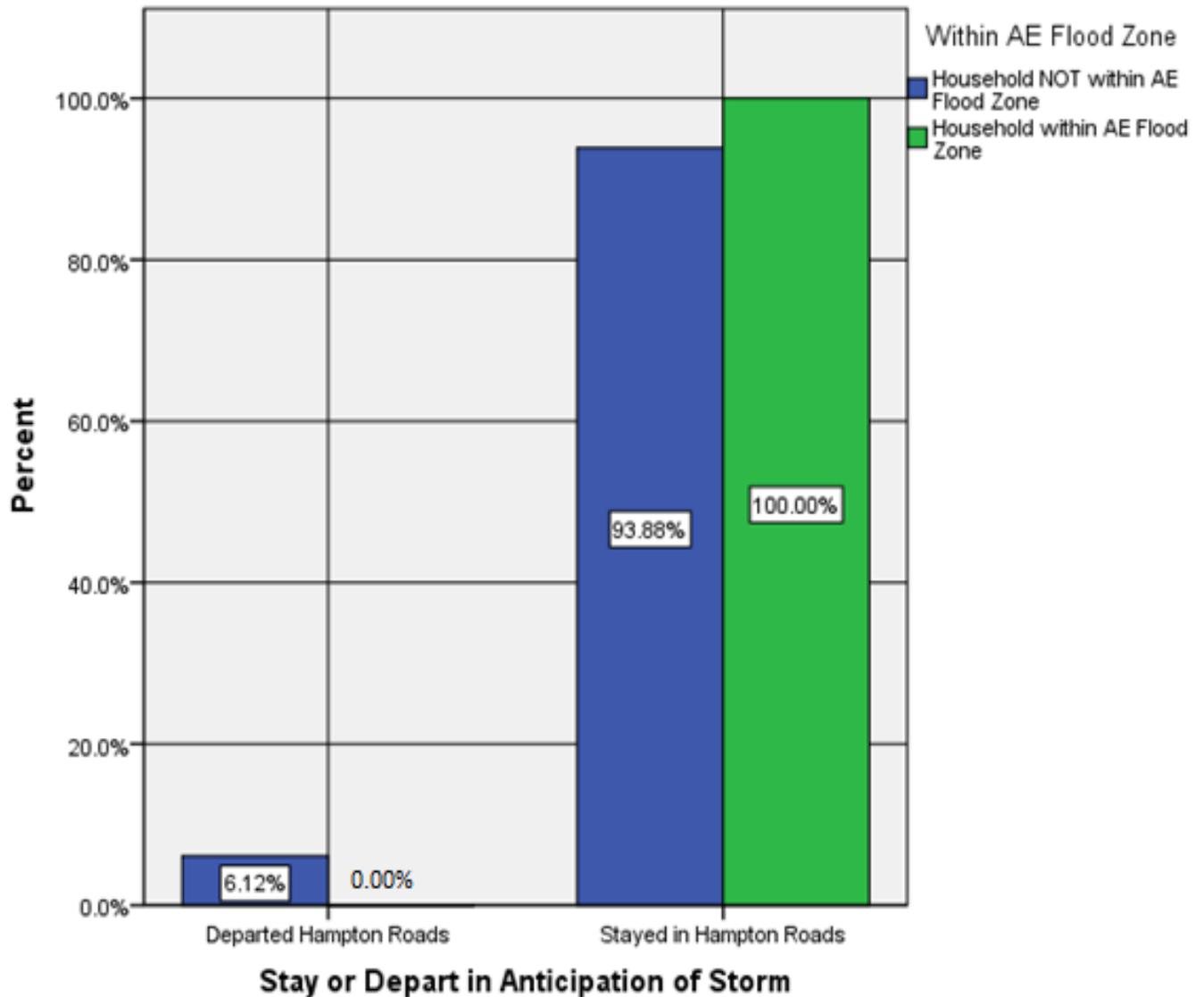
## Stay or Depart

Households were asked whether or not they departed Hampton Roads in anticipation of a storm. Approximately 5.6 percent of households report that they departed Hampton Roads, while about 94.4 percent report that they didn't depart Hampton Roads.



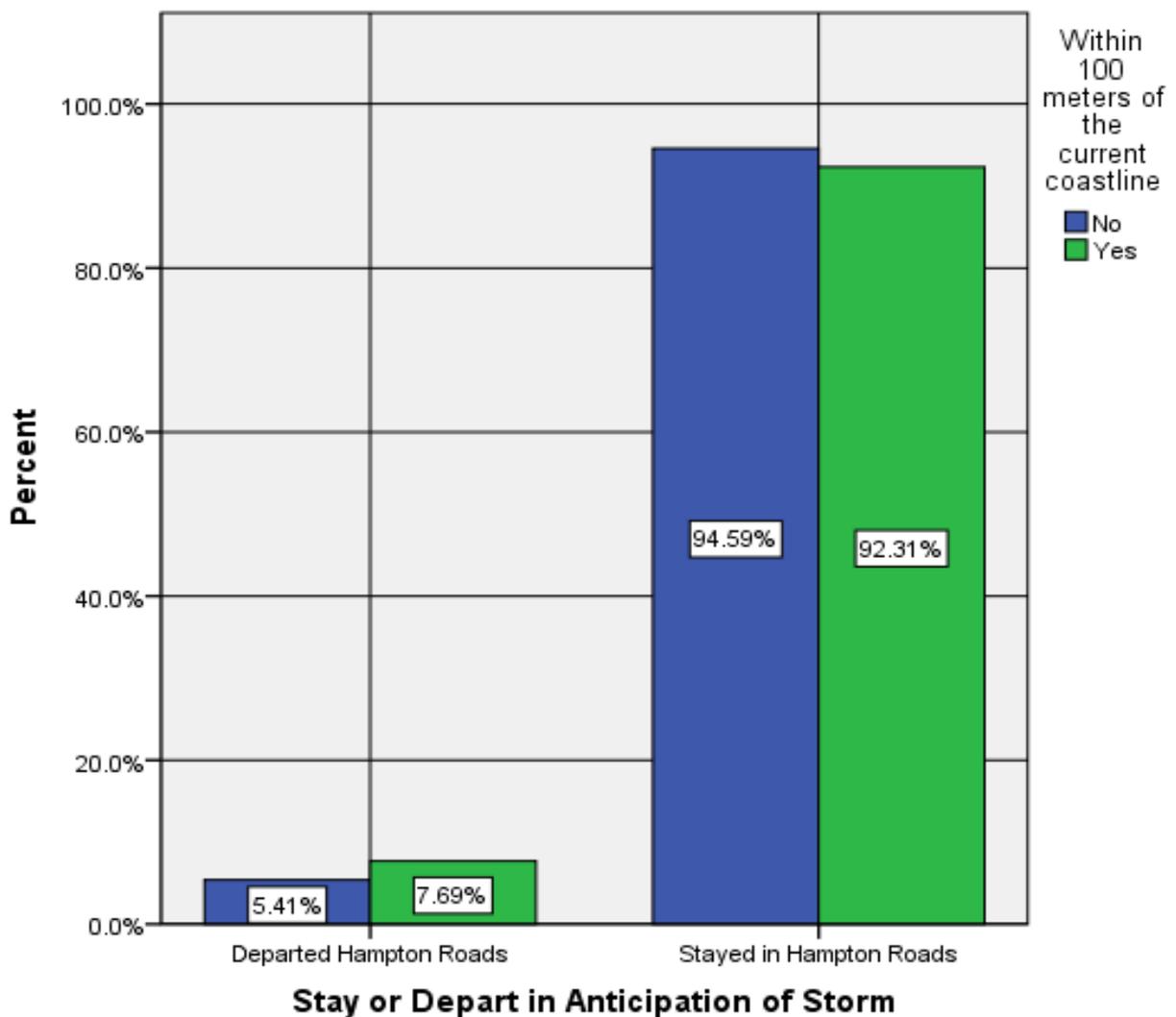
### Stay or Depart .. by .. AE Flood Zone

Households were asked whether or not they departed Hampton Roads in anticipation of a storm. These households are disaggregated based on whether or not they are located within an AE flood zone. For those households located within the flood zone, 100 percent report that they didn't depart Hampton Roads. For those households not located within the flood zone, about 6 percent report that they departed Hampton Roads and nearly 94 percent report that they didn't depart Hampton Roads.



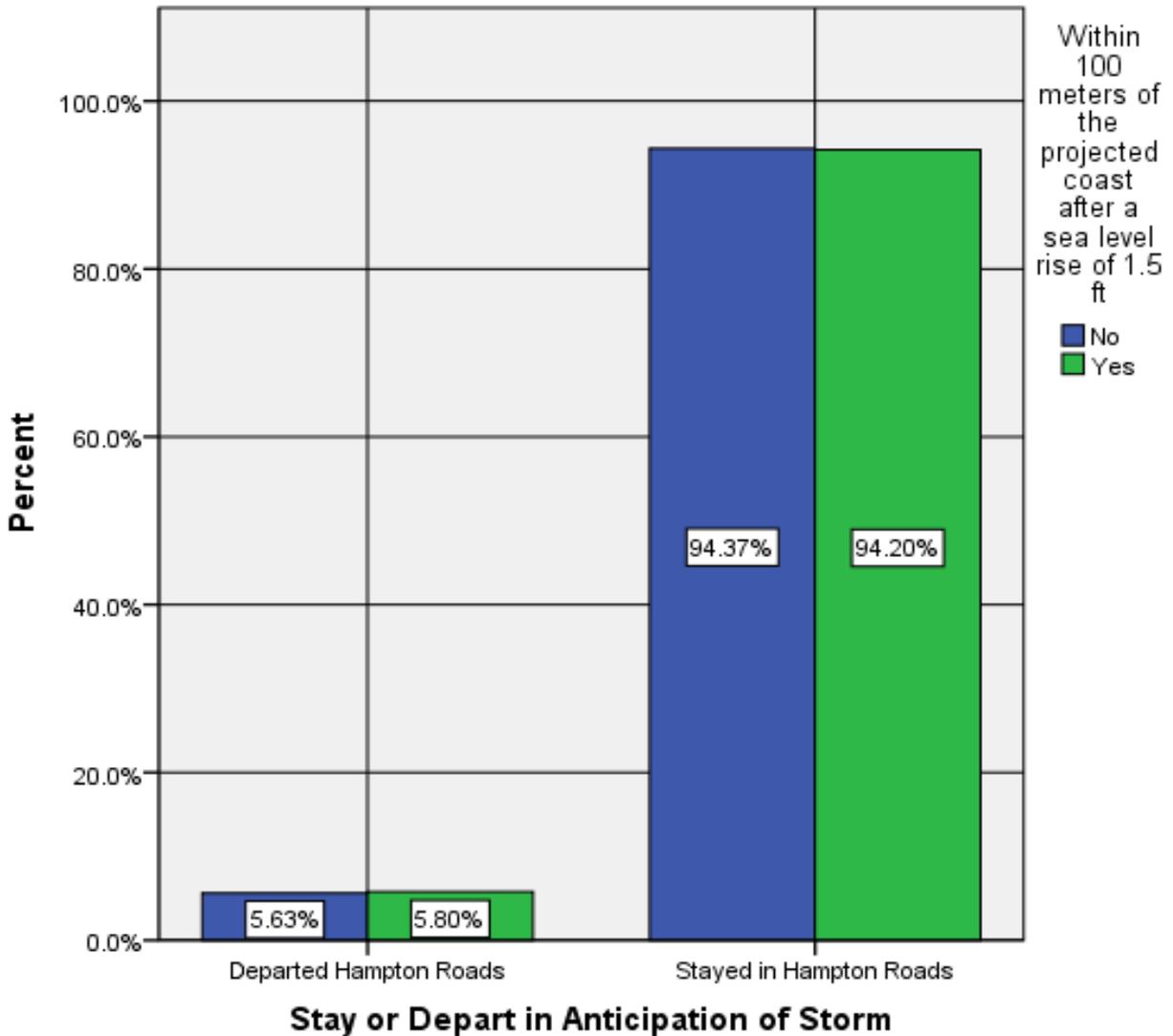
### Stay or Depart .. by .. Within 100 Meters of the Current Coastline

Households were asked whether or not they departed Hampton Roads in anticipation of a storm. These households are disaggregated based on whether or not they are located within 100 meters of the current coastline. For those households located within 100 meters of the current coastline, nearly 8 percent report that they departed Hampton Roads, while approximately 92 percent report that they didn't depart Hampton Roads. For those households that are not located within 100 meters of the current coastline, about 5 percent report that they departed Hampton Roads and approximately 95 percent report that they didn't depart Hampton Roads.



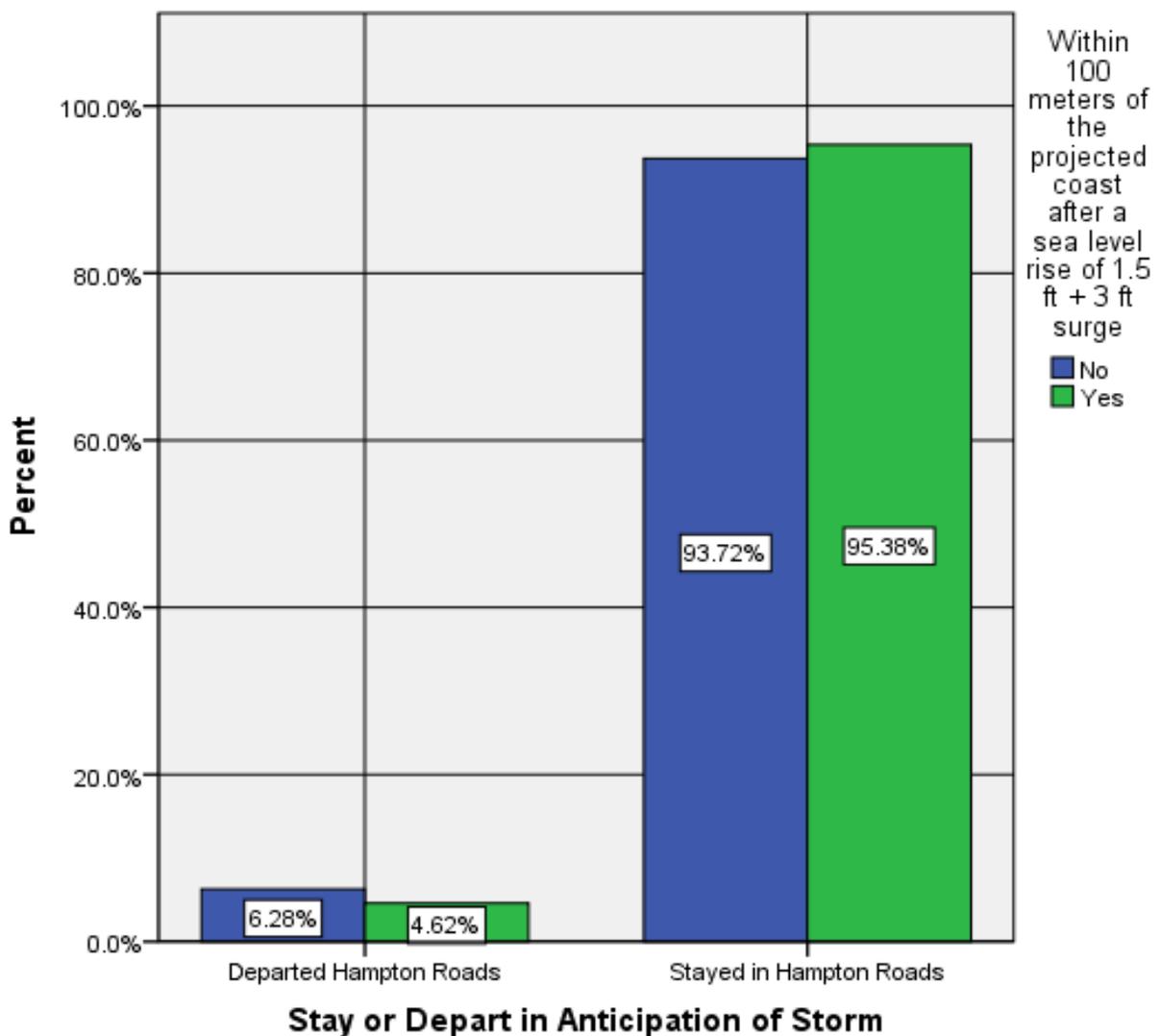
### Stay or Depart .. by .. Within 100 Meters of the Projected SLR Coastline

Households were asked whether or not they departed Hampton Roads in anticipation of a storm. These households are disaggregated based on whether or not they are located within 100 meters of the projected coastline after a sea level rise (SLR) of 1.5 feet. For those households located within 100 meters of the projected SLR coastline, nearly 6 percent report that they departed Hampton Roads, while approximately 94 percent report that they didn't depart Hampton Roads. For those households that are not located within 100 meters of the projected SLR coastline, nearly 6 percent report that they departed Hampton Roads and approximately 94 percent report that they didn't depart Hampton Roads.



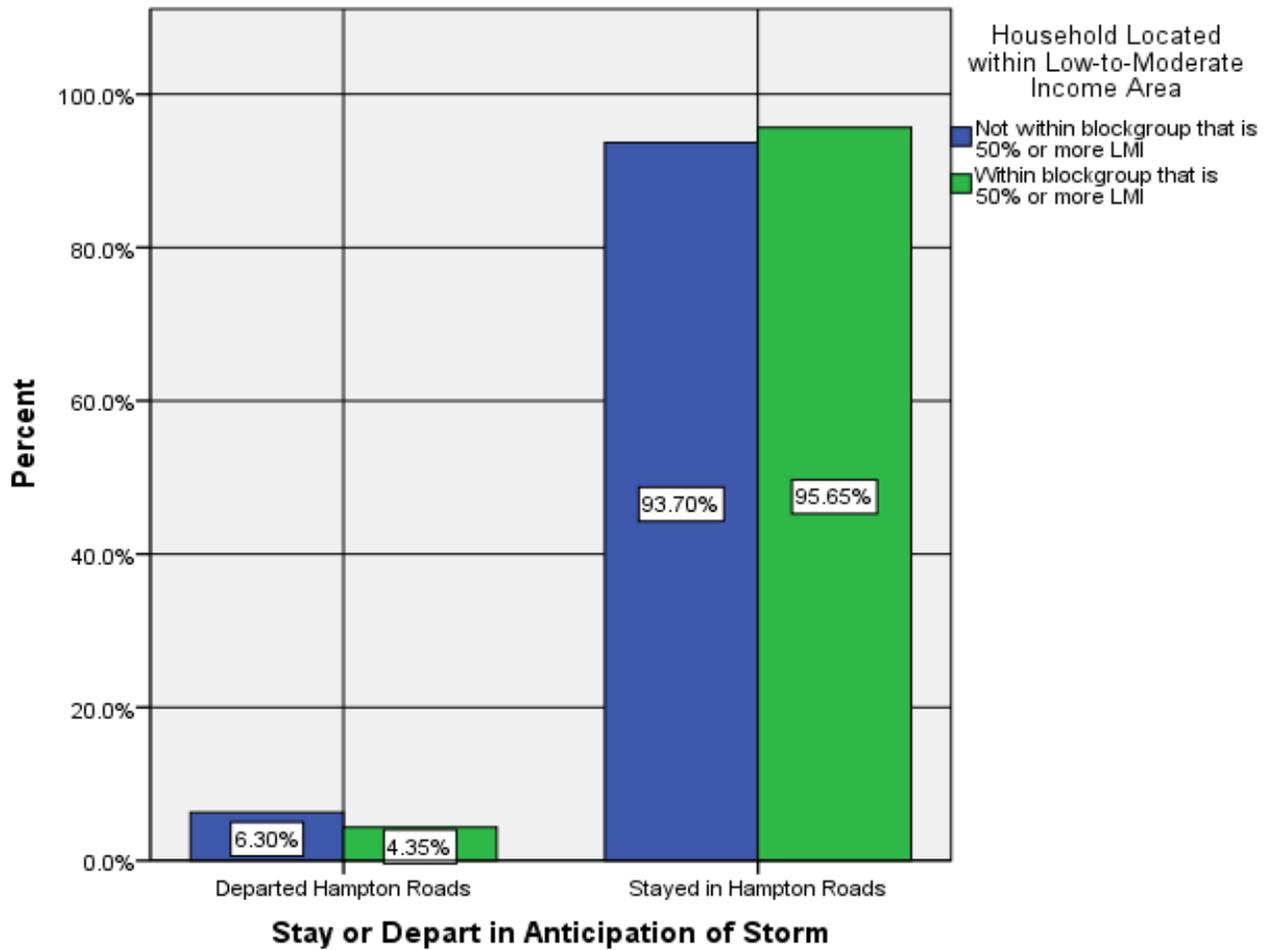
### Stay or Depart .. by .. Within 100 Meters of the Projects SLR+Surge Coastline

Households were asked whether or not they departed Hampton Roads in anticipation of a storm. These households are disaggregated based on whether or not they are located within 100 meters of the projected coastline after a sea level rise (SLR) of 1.5 feet and a storm surge of 3 feet. For those households located within 100 meters of the projected SLR+Surge coastline, about 5 percent report that they departed Hampton Roads, while about 95 percent report that they didn't depart Hampton Roads. For those households that are not located within 100 meters of the projected SLR+Surge coastline, about 6 percent report that they departed Hampton Roads and about 94 percent report that they didn't depart Hampton Roads.



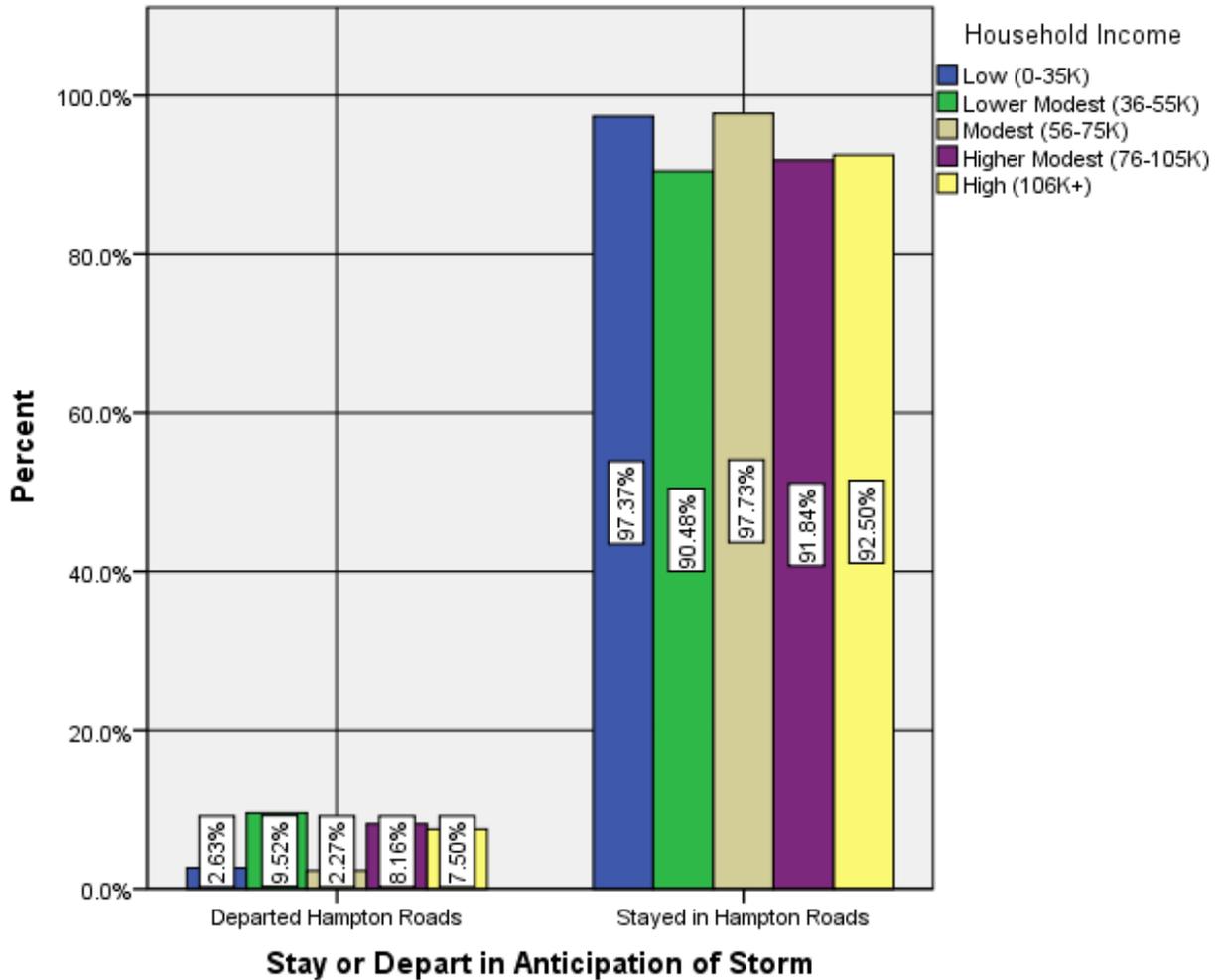
### Stay or Depart .. by .. LMI Area

Households were asked whether or not they departed Hampton Roads in anticipation of a storm. These households are disaggregated by whether or not they are located within a low-to-moderate income block group. For those households located within a low-to-moderate income block group, about 4 percent report that they departed Hampton Roads, while nearly 96 percent report that they didn't depart Hampton Roads. For those households that are not located within a low-to-moderate income block group, about 6 percent report that they departed Hampton Roads and about 94 percent report that they didn't depart Hampton Roads.



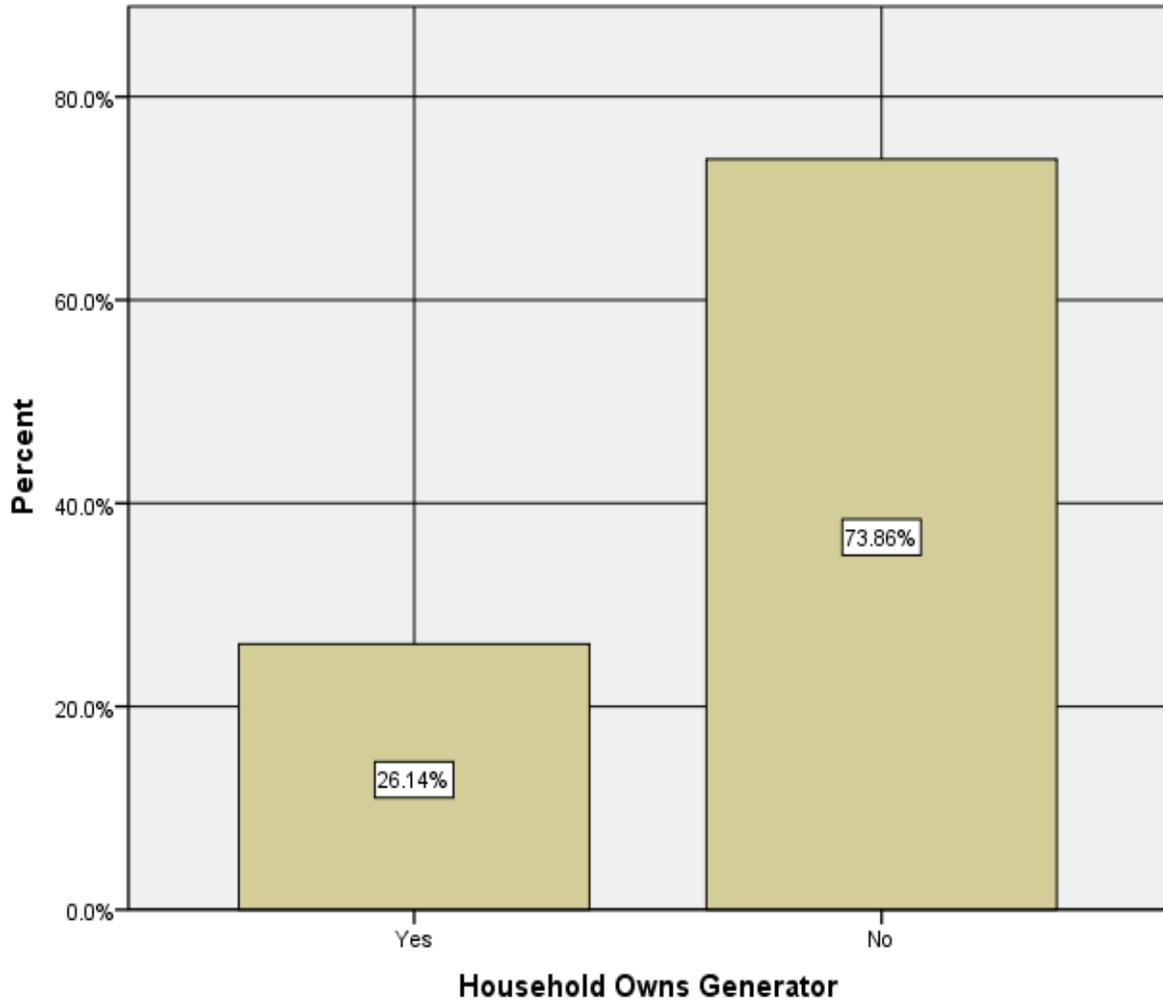
### Stay or Depart .. by .. Income

Households were asked whether or not they departed Hampton Roads in anticipation of a storm. These households are disaggregated by household annual income. The following approximate percent of households report that they departed Hampton Roads: 3 percent low, 10 percent lower modest, 2 percent modest, 8 percent higher modest, and 8 percent high.



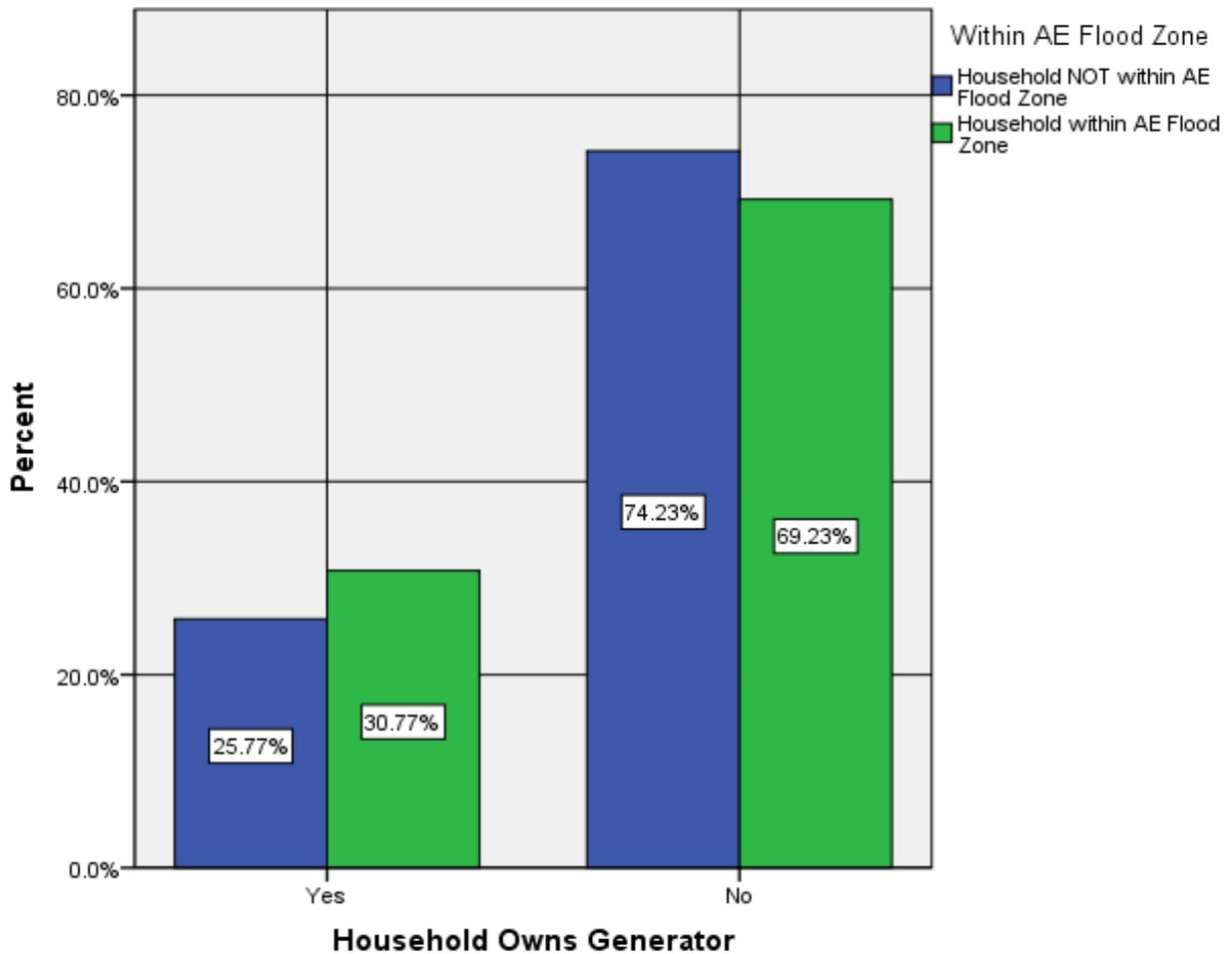
## Household Owns Generator

Households were asked whether or not they own a generator. About 26 percent of households report owning a generator, while nearly 74 percent report not owning a generator.



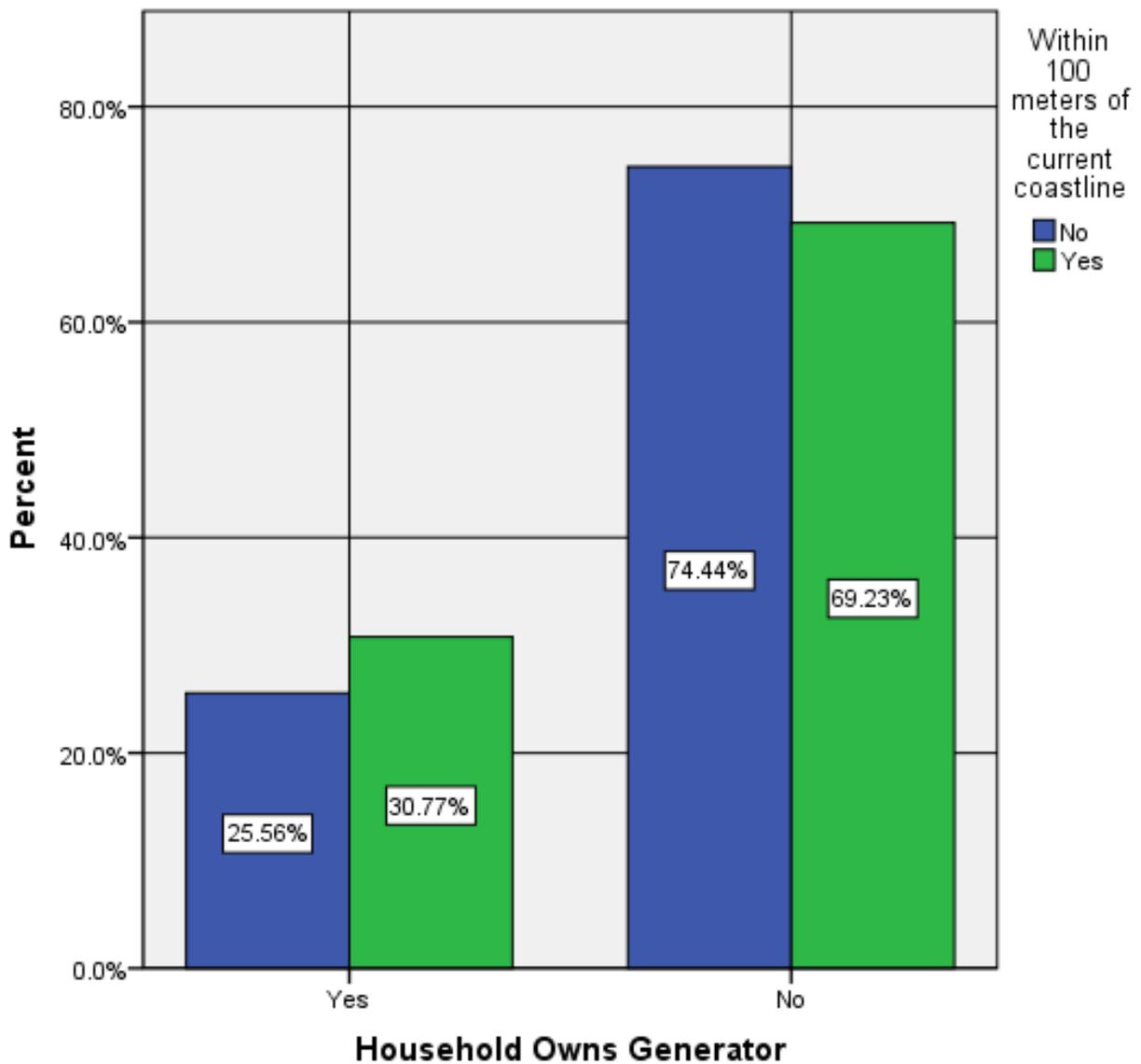
### Household Owns Generator .. by .. AE Flood Zone

Households were asked whether or not they own a generator. These households are disaggregated based on whether or not they are located within an AE flood zone. For those households located within the flood zone, nearly 31 percent report that they own a generator, while approximately 69 percent report not owning a generator. For those households not located within the flood zone, nearly 26 percent report that they own a generator and about 74 percent report not owning a generator.



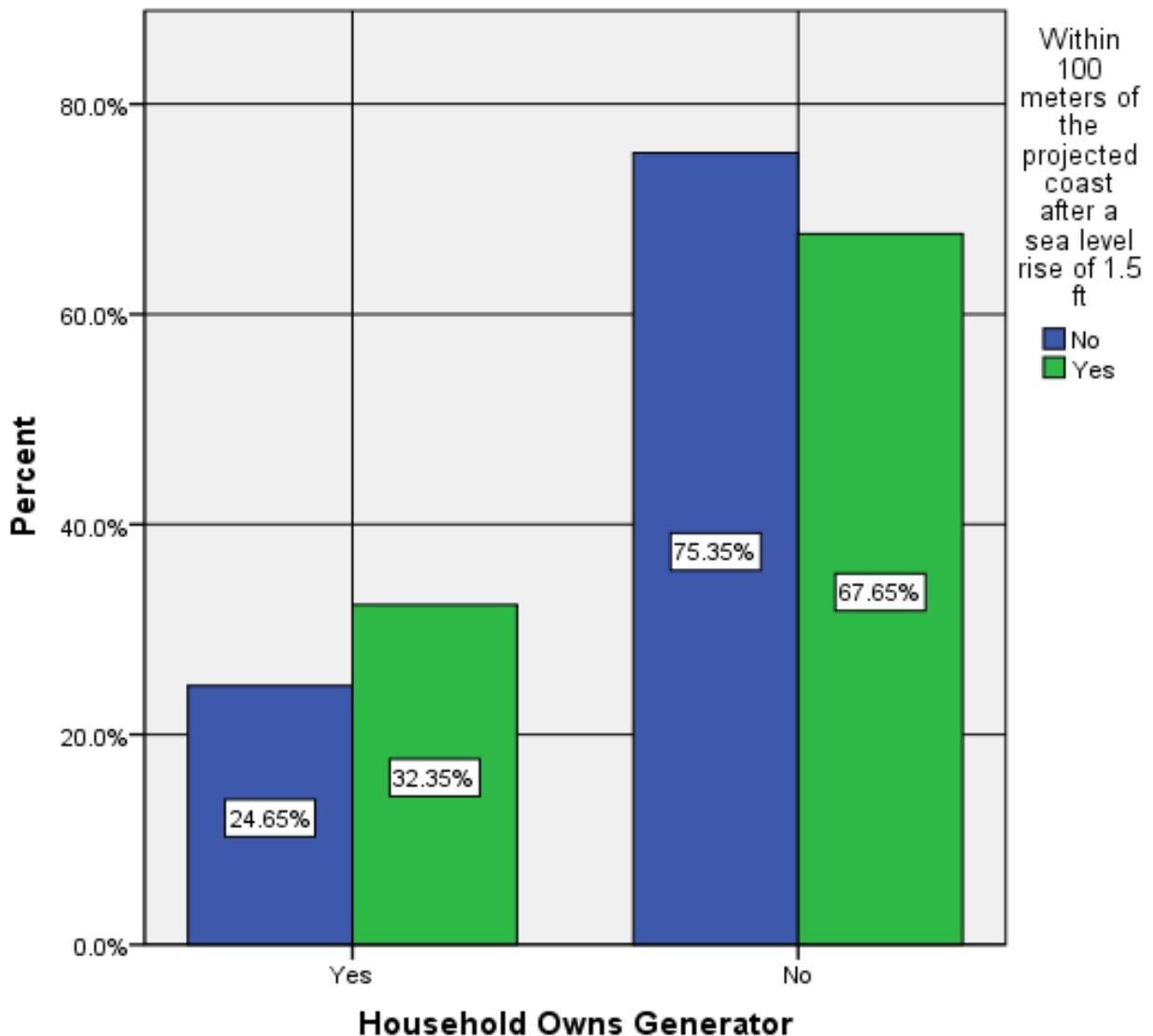
### Household Owns Generator .. by .. Within 100m of the Current Coastline

Households were asked whether or not they own a generator. These households are disaggregated based on whether or not they are located within 100 meters of the current coastline. For those households located within 100 meters of the current coastline, nearly 31 percent report that they own a generator, while approximately 69 percent report not owning a generator. For those households that are not located within 100 meters of the current coastline, about 26 percent report that they own a generator and approximately 74 percent report on owning a generator.



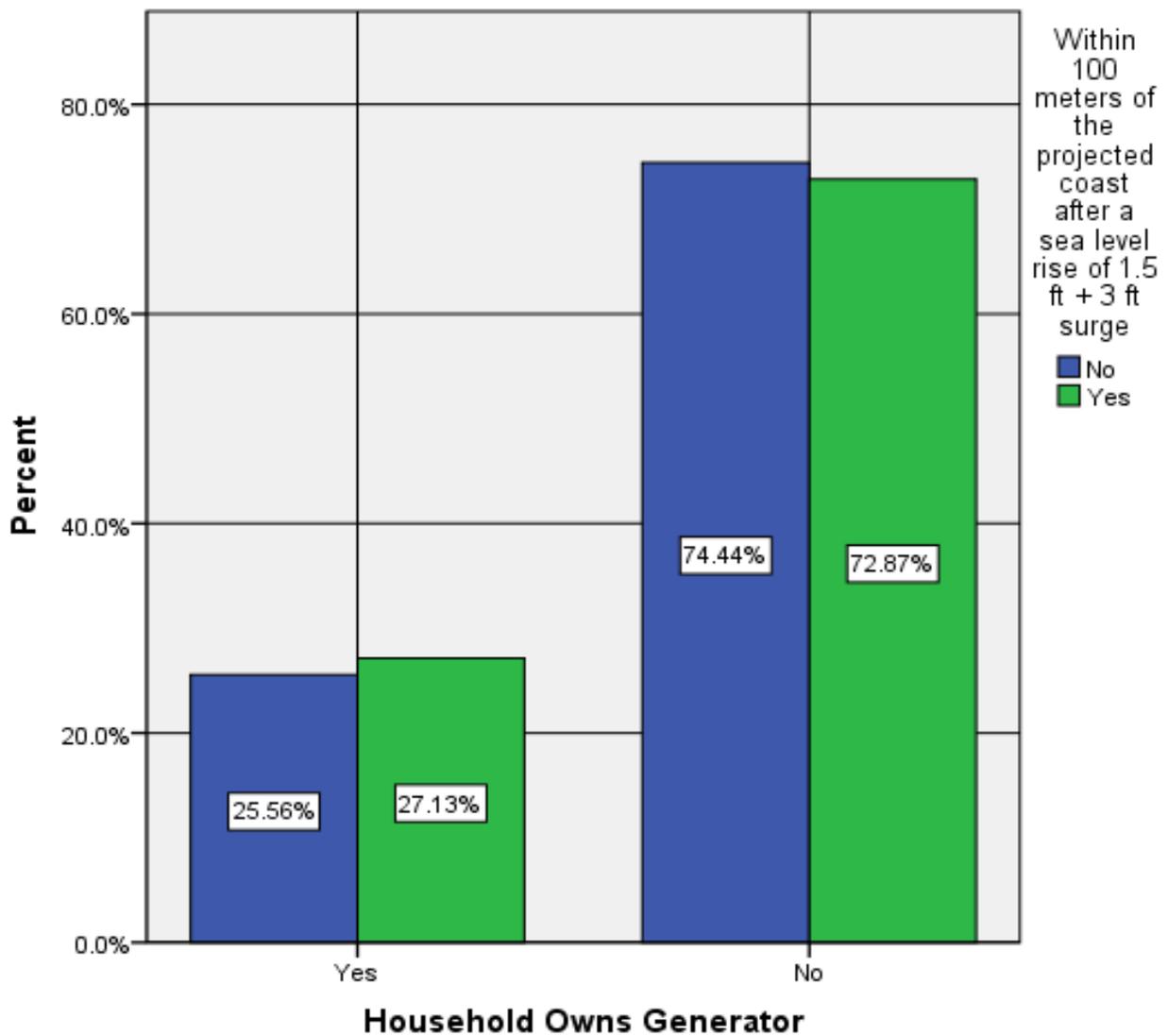
### Household Owns Generator .. by .. Within 100m of the Projected SLR Coastline

Households were asked whether or not they own a generator. These households are disaggregated based on whether or not they are located within 100 meters of the projected coastline after a sea level rise (SLR) of 1.5 feet. For those households located within 100 meters of the projected SLR coastline, about 32 percent report that they own a generator, while approximately 68 percent report not owning a generator. For those households that are not located within 100 meters of the projected SLR coastline, about 25 percent report that they own a generator and about 75 percent report not owning a generator.



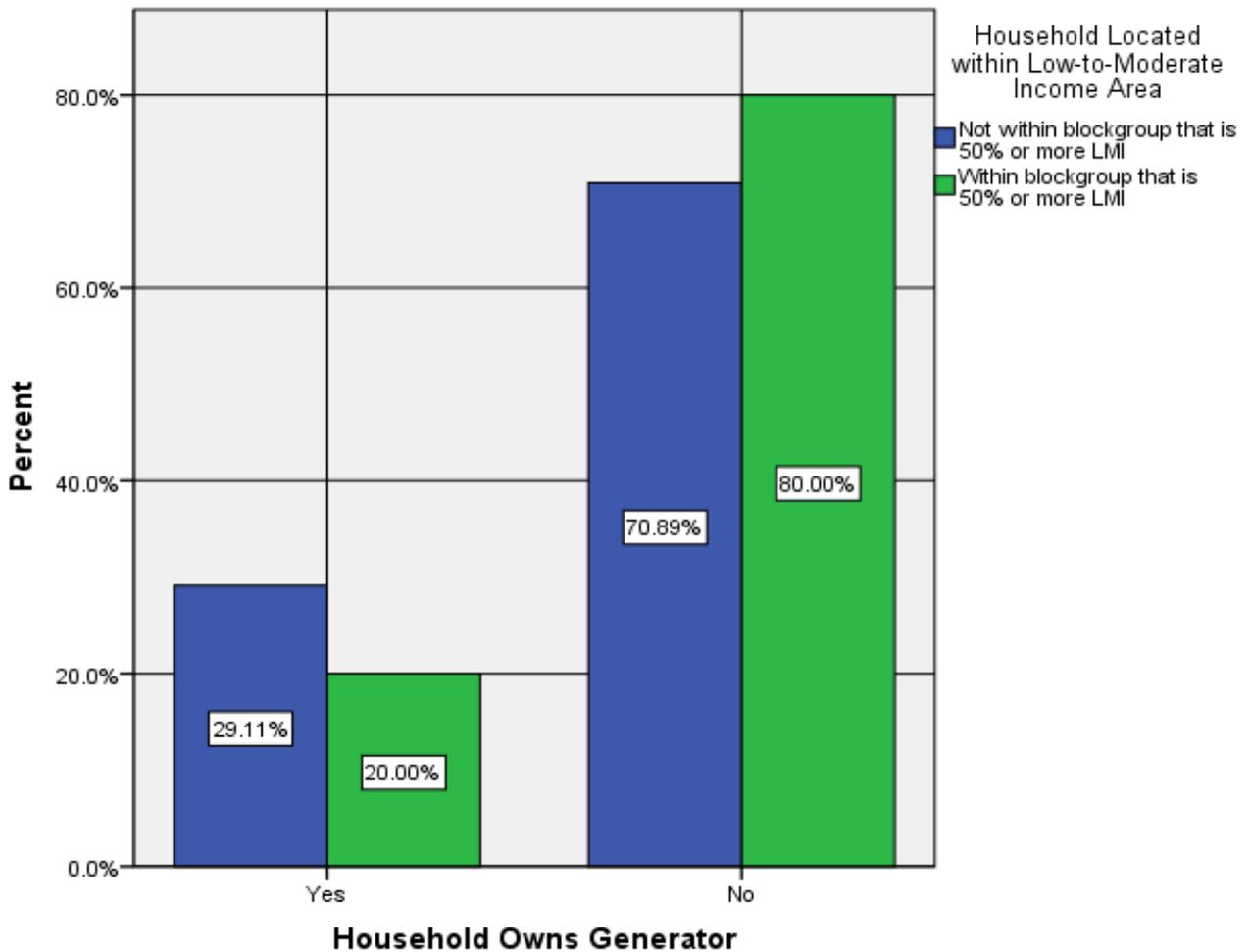
### Household Owns Generator .. by .. Within 100m of the Projects SLR+Surge Coastline

Households were asked whether or not they own a generator. These households are disaggregated based on whether or not they are located within 100 meters of the projected coastline after a sea level rise (SLR) of 1.5 feet and a storm surge of 3 feet. For those households located within 100 meters of the projected SLR+Surge coastline, about 27 percent report that they own a generator, while nearly 73 percent report not owning a generator. For those households that are not located within 100 meters of the projected SLR+Surge coastline, nearly 26 percent report that they own a generator and about 74 percent report not owning a generator.



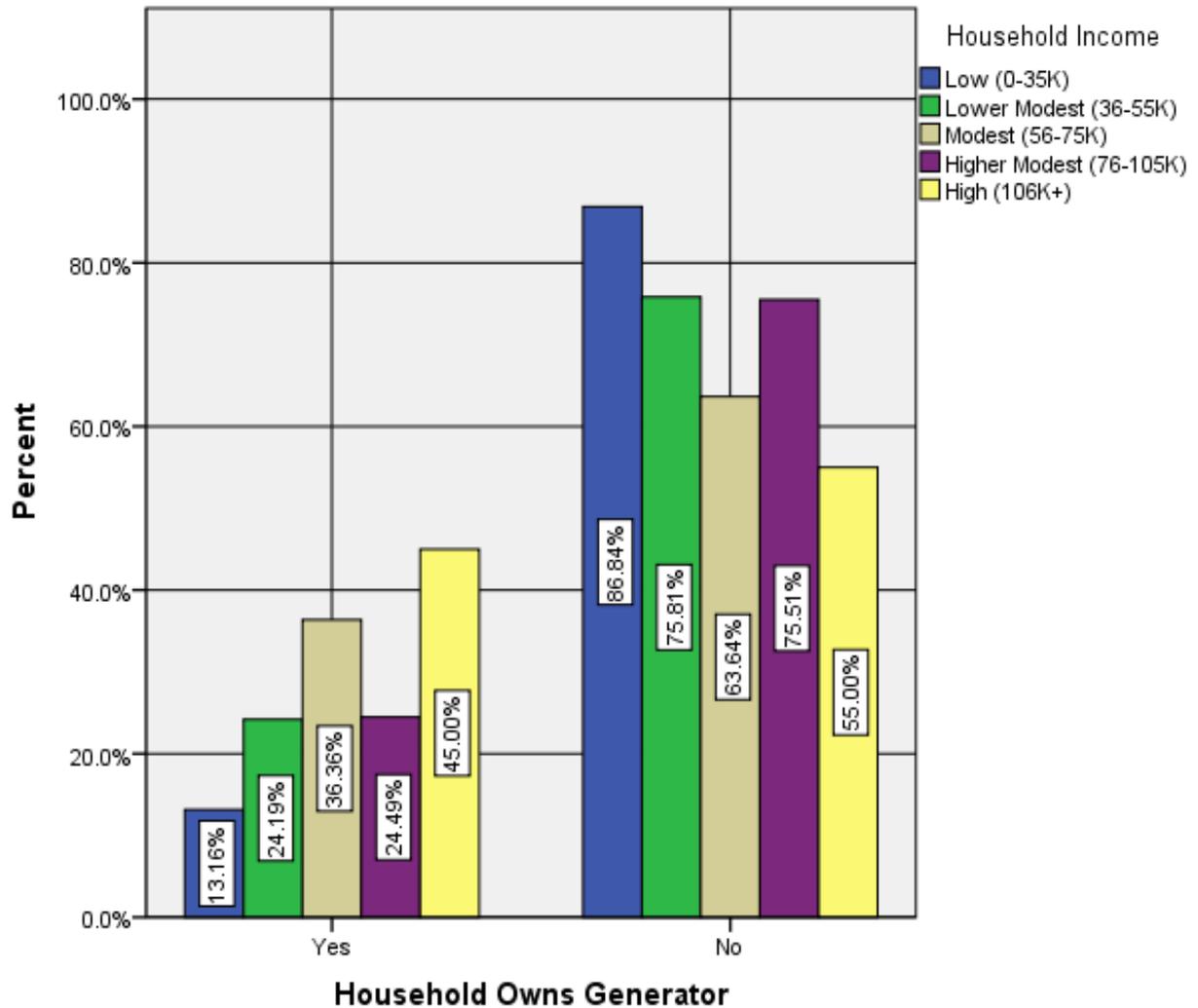
### Household Owns Generator .. by .. LMI Area

Households were asked whether or not they own a generator. These households are disaggregated by whether or not they are located within a low-to-moderate income block group. For those households located within a low-to-moderate income block group, 20 percent report that they own a generator, while 80 percent report not owning a generator. For those households that are not located within a low-to-moderate income block group, about 29 percent report that they own a generator and about 71 percent report not owning a generator.



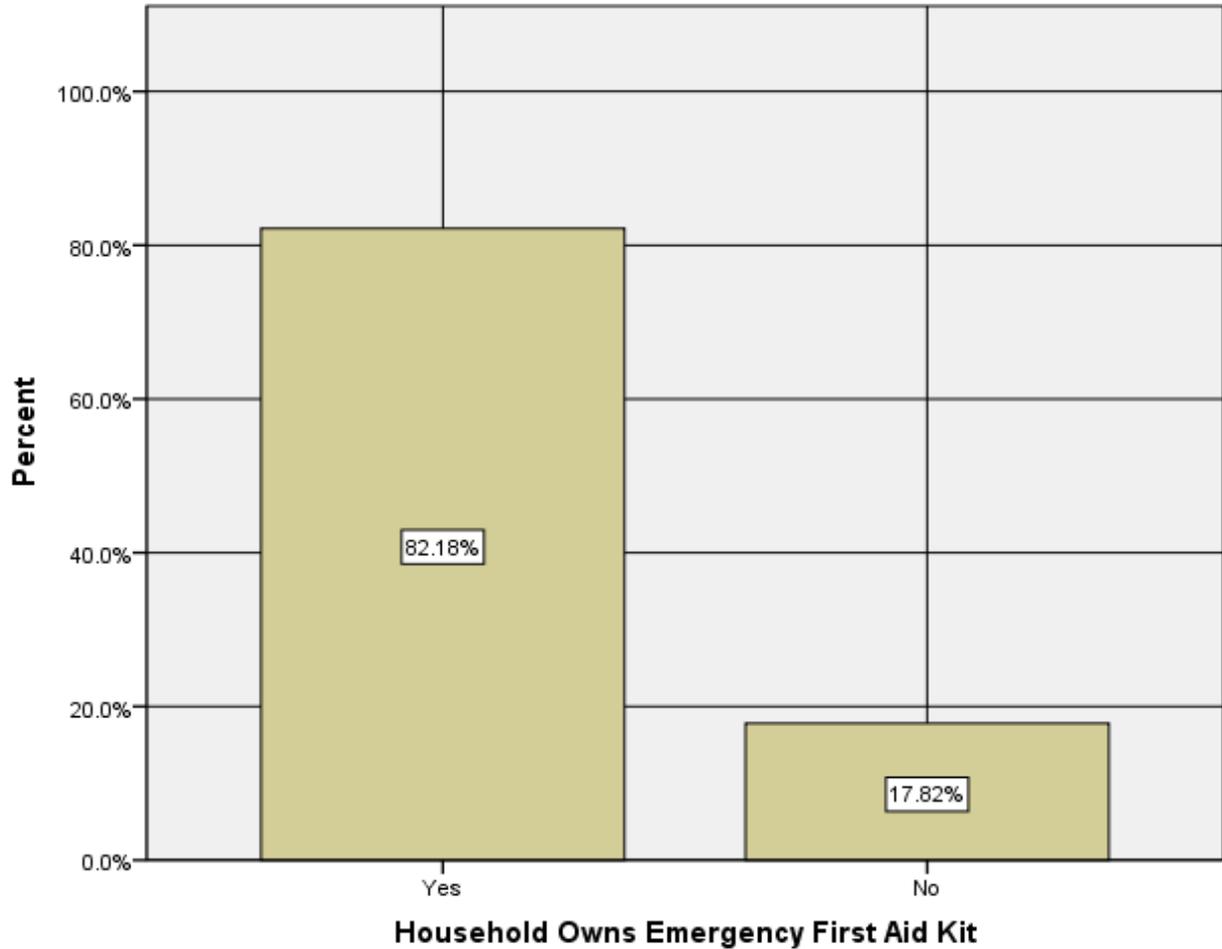
### Household Owns Generator .. by .. Income

Households were asked whether or not they own a generator. These households are disaggregated by household annual income. The following approximate percent of households report owning a generator: 13 percent low, 24 percent lower modest, 36 percent modest, 24 percent higher modest, and 45 percent high



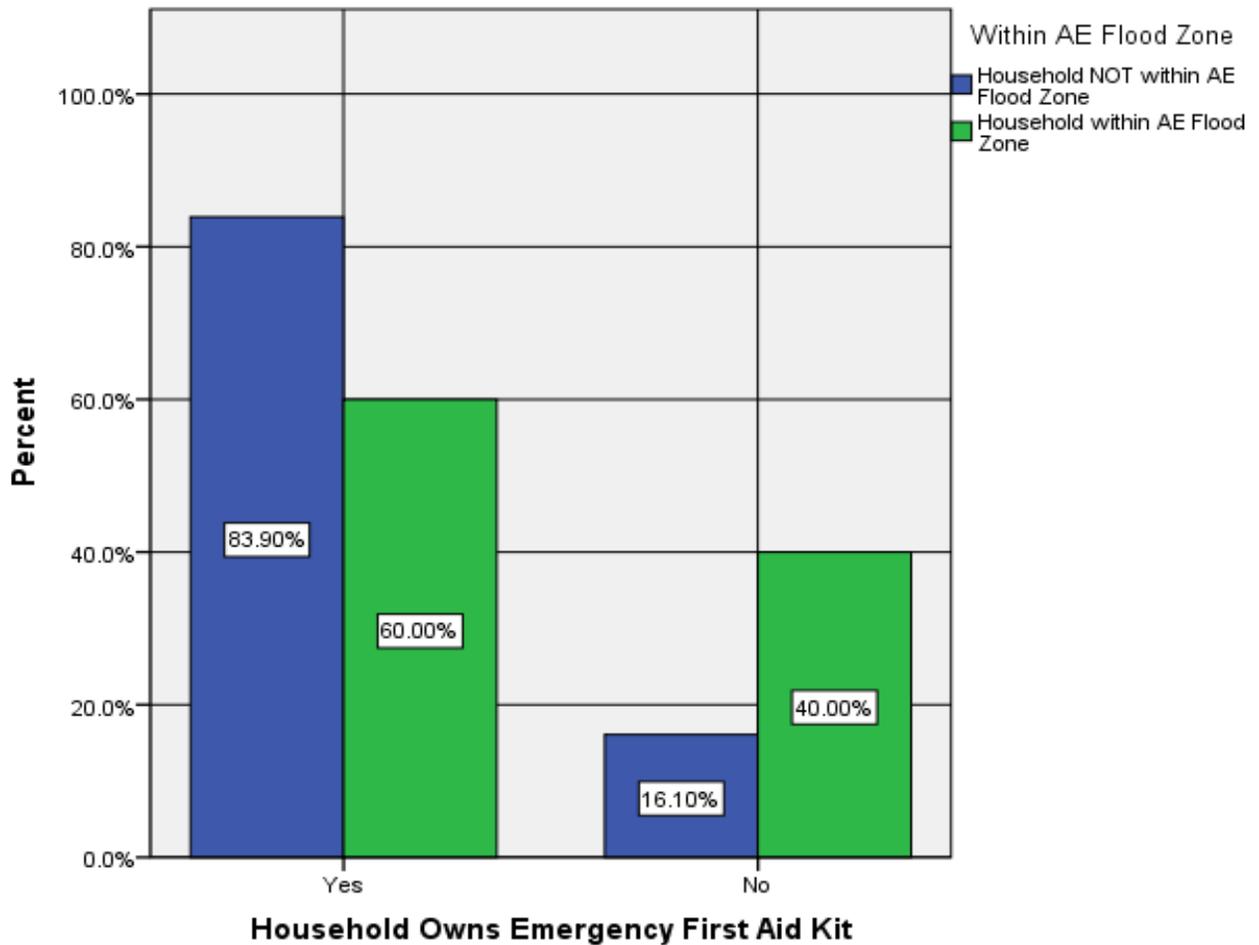
### Household Owns Emergency First Aid Kit

Households were asked whether or not they own emergency first aid kits. About 82 percent of households report that they own emergency first aid kits, while nearly 18 percent report not owning emergency first aid kits.



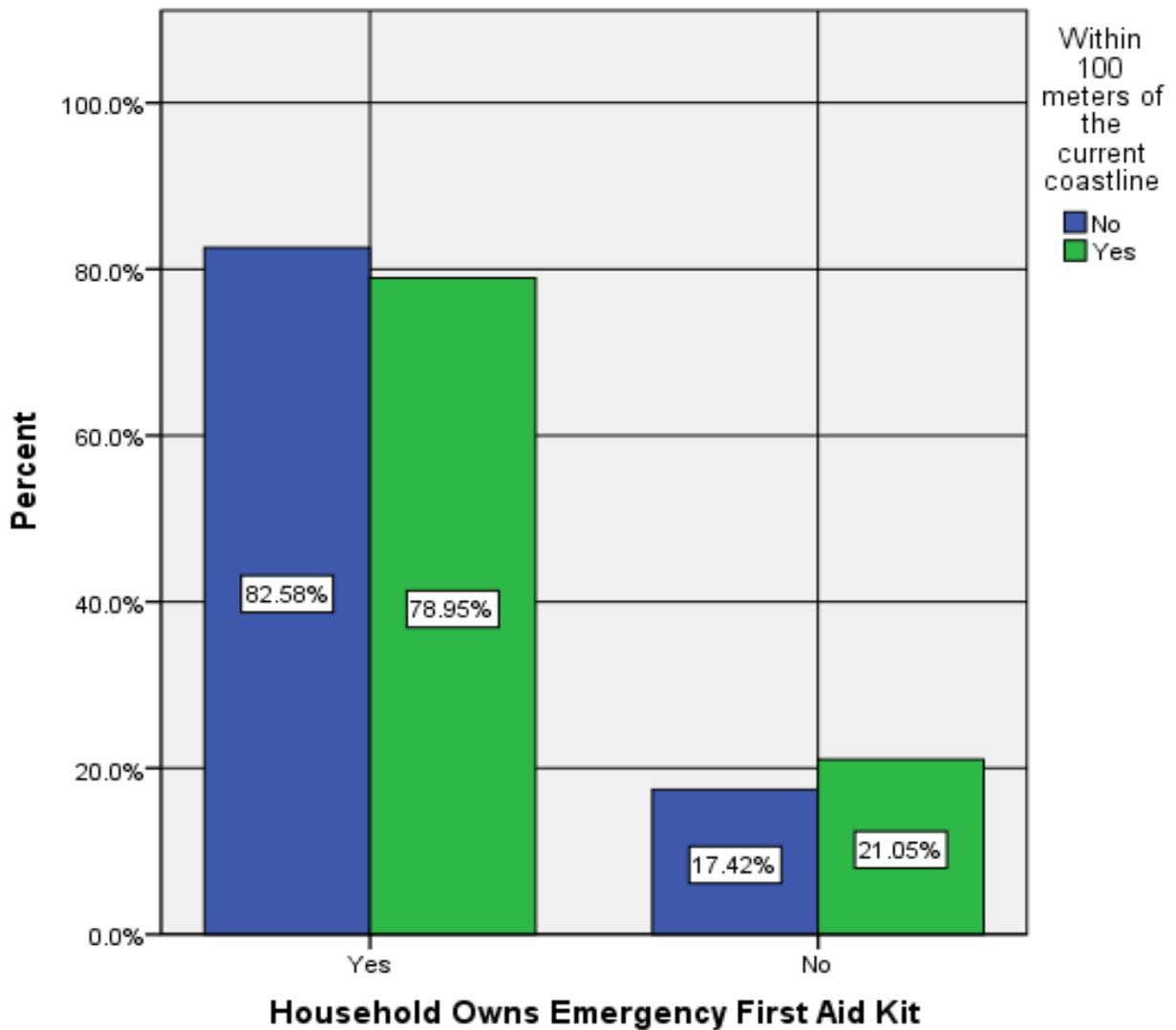
### Household Owns Emergency First Aid Kit .. by .. AE Flood Zone

Households were asked whether or not they own emergency first aid kits. These households are disaggregated based on whether or not they are located within an AE flood zone. For those households located within the flood zone, 60 percent report that they own emergency first aid kits, while 40 percent report not owning emergency first aid kits. For those households not located within the flood zone, nearly 84 percent report that they own emergency first aid kits and about 16 percent report not owning emergency first aid kits.



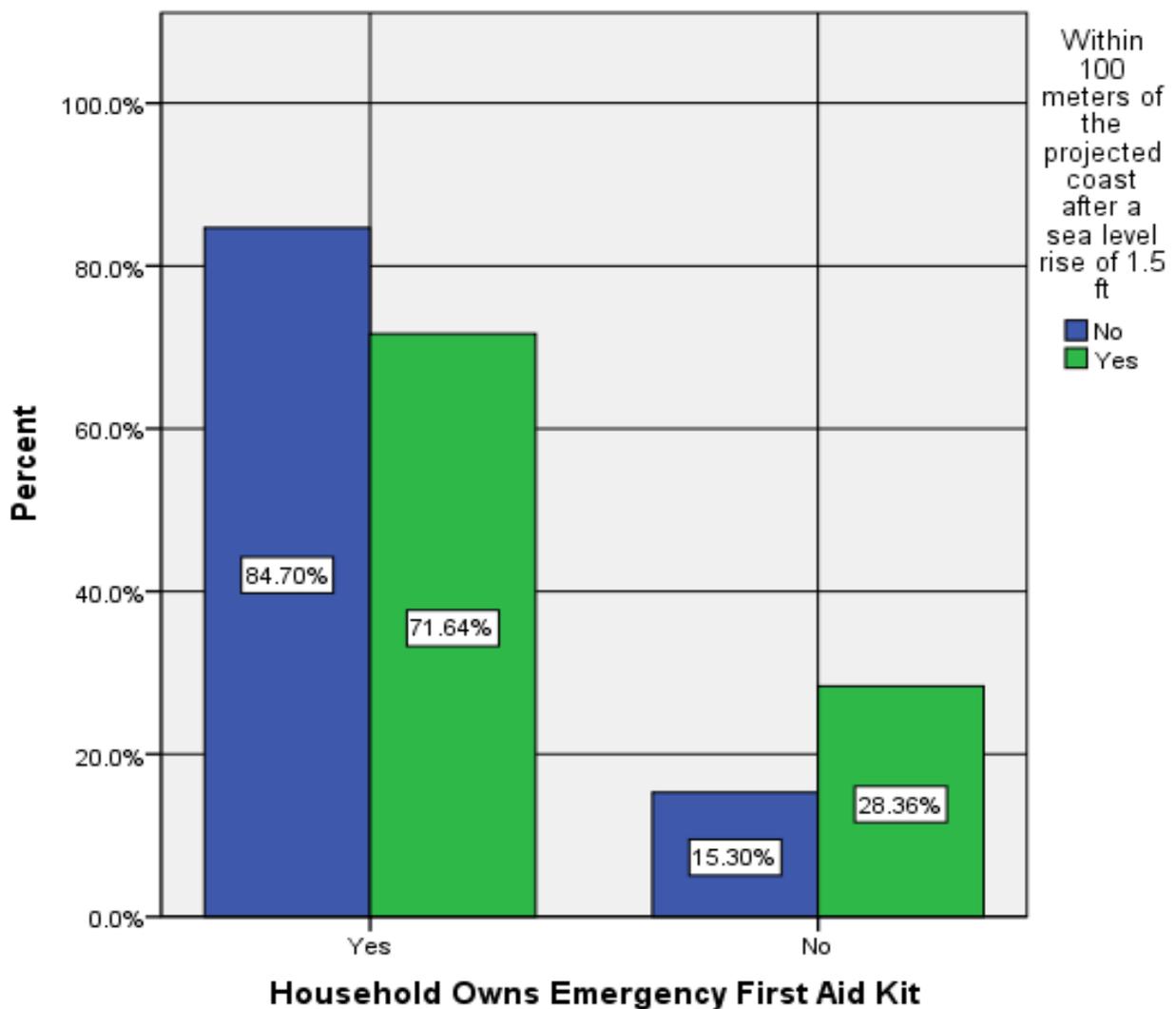
### Household Owns Emergency First Aid Kit .. by .. Within 100m of the Current Coastline

Households were asked whether or not they own emergency first aid kits. These households are disaggregated based on whether or not they are located within 100 meters of the current coastline. For those households located within 100 meters of the current coastline, nearly 79 percent report that they own emergency first aid kits, while approximately 21 percent report not owning emergency first aid kits. For those households that are not located within 100 meters of the current coastline, nearly 83 percent report that they own emergency first aid kits and about 17 percent report not owning emergency first aid kits.



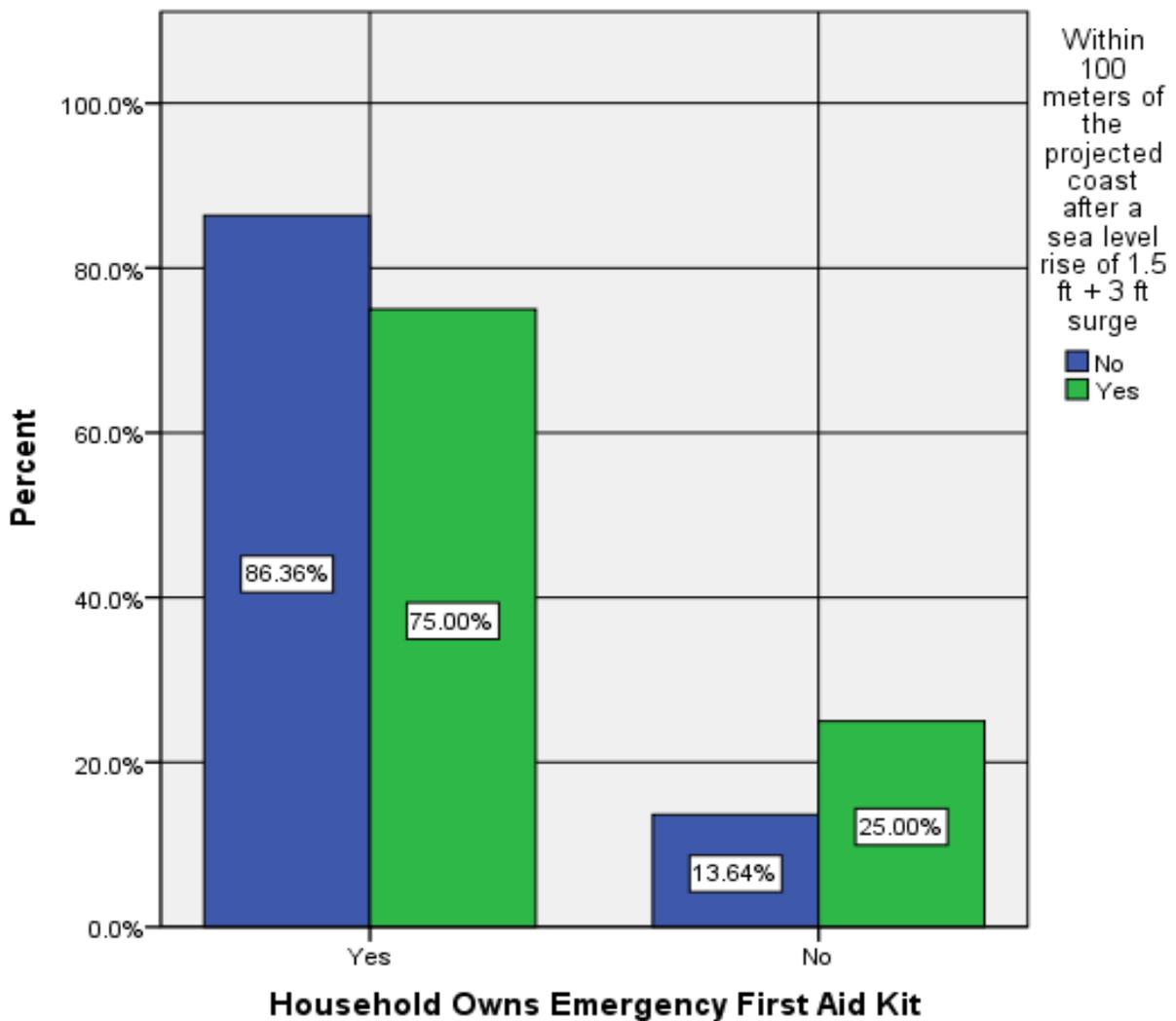
### Household Owns Emergency First Aid Kit .. by .. Within 100m of the Projected SLR Coastline

Households were asked whether or not they own emergency first aid kits. These households are disaggregated based on whether or not they are located within 100 meters of the projected coastline after a sea level rise (SLR) of 1.5 feet. For those households located within 100 meters of the projected SLR coastline, nearly 72 percent report that they own emergency first aid kits, while approximately 28 percent report not owning emergency first aid kits. For those households that are not located within 100 meters of the projected SLR coastline, nearly 85 percent report that they own emergency first aid kits and about 15 percent report not owning emergency first aid kits.



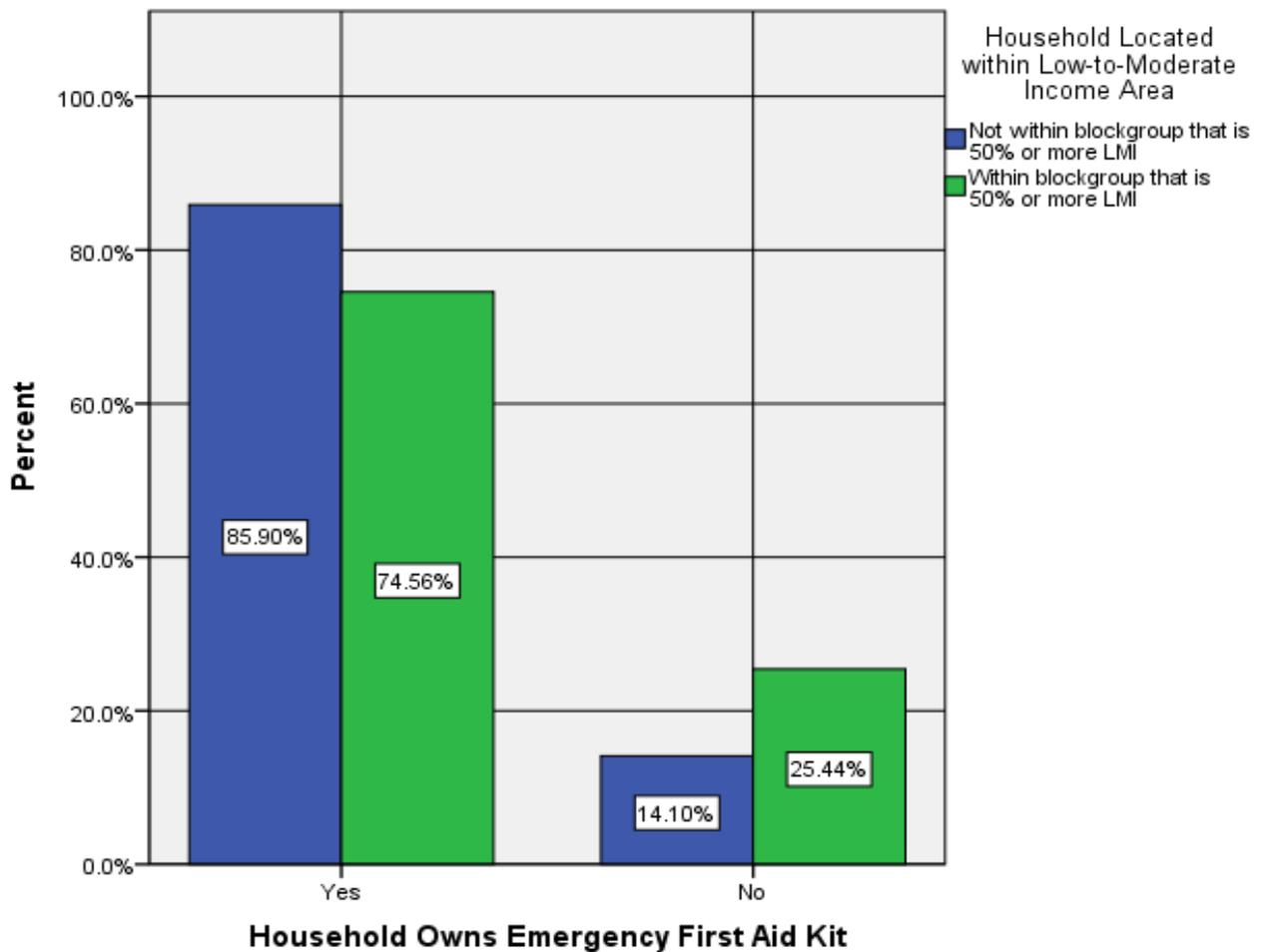
### Household Owns Emergency First Aid Kit .. by .. Within 100m of the Projects SLR+Surge Coastline

Households were asked whether or not they own emergency first aid kits. These households are disaggregated based on whether or not they are located within 100 meters of the projected coastline after a sea level rise (SLR) of 1.5 feet and a storm surge of 3 feet. For those households located within 100 meters of the projected SLR+Surge coastline, 75 percent report that they own emergency first aid kits, while 25 percent report not owning emergency first aid kits. For those households that are not located within 100 meters of the projected SLR+Surge coastline, about 86 percent report that they own emergency first aid kits and nearly 14 percent report not owning emergency first aid kits.



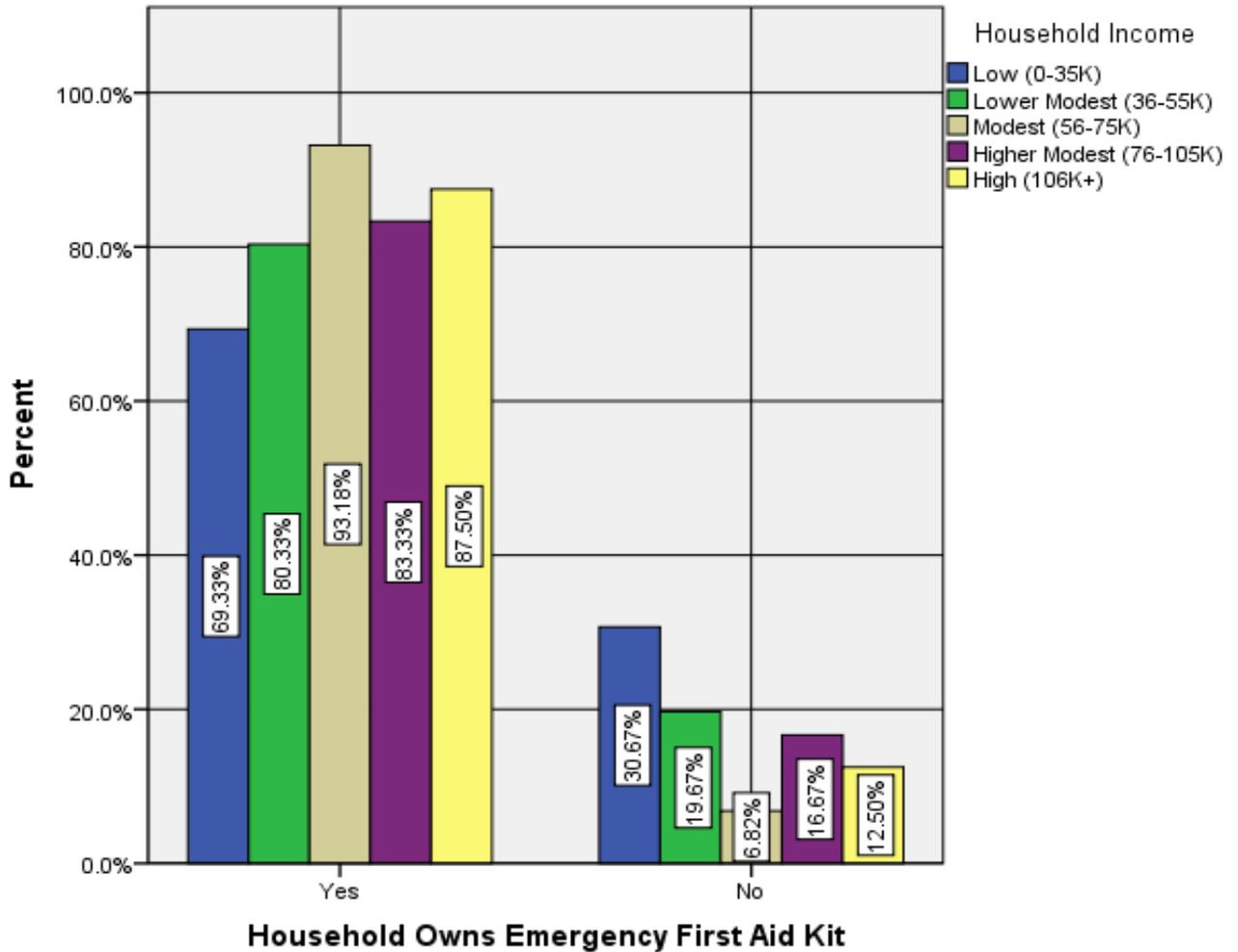
### Household Owns Emergency First Aid Kit .. by .. LMI Area

Households were asked whether or not they own emergency first aid kits. These households are disaggregated by whether or not they are located within a low-to-moderate income block group. For those households located within a low-to-moderate income block group, nearly 75 percent report that they own emergency first aid kits, while about 25 percent report not owning emergency first aid kits. For those households that are not located within a low-to-moderate income block group, nearly 86 percent report that they own emergency first aid kits and about 14 percent report not owning emergency first aid kits.



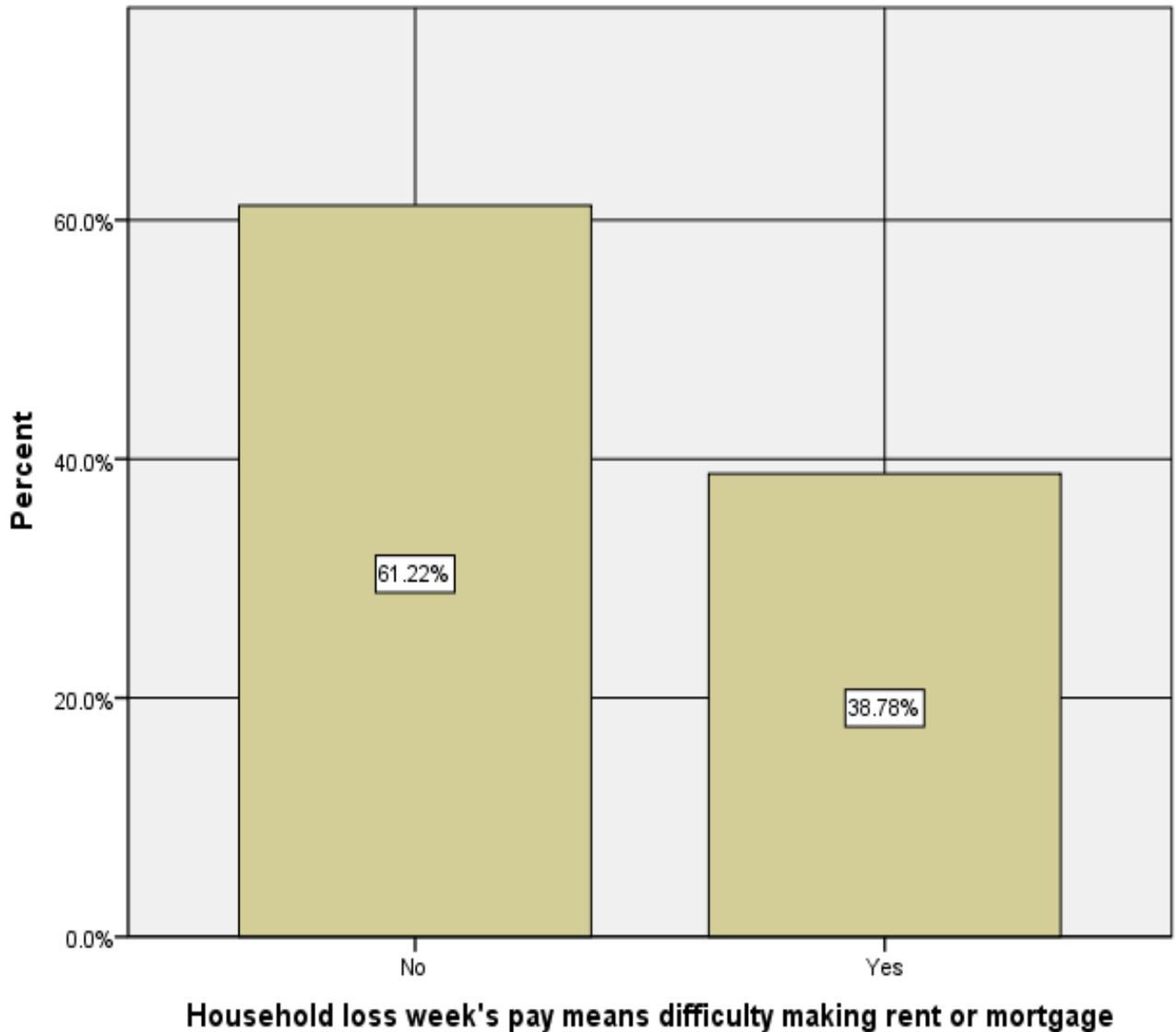
### Household Owns Emergency First Aid Kit .. by .. Income

Households were asked whether or not they own emergency first aid kits. These households are disaggregated by household annual income. The following approximate percent of households report owing emergency first aid kits: 69 percent low, 80 percent lower modest, 93 percent modest, 83 percent higher modest, and 88 percent high.



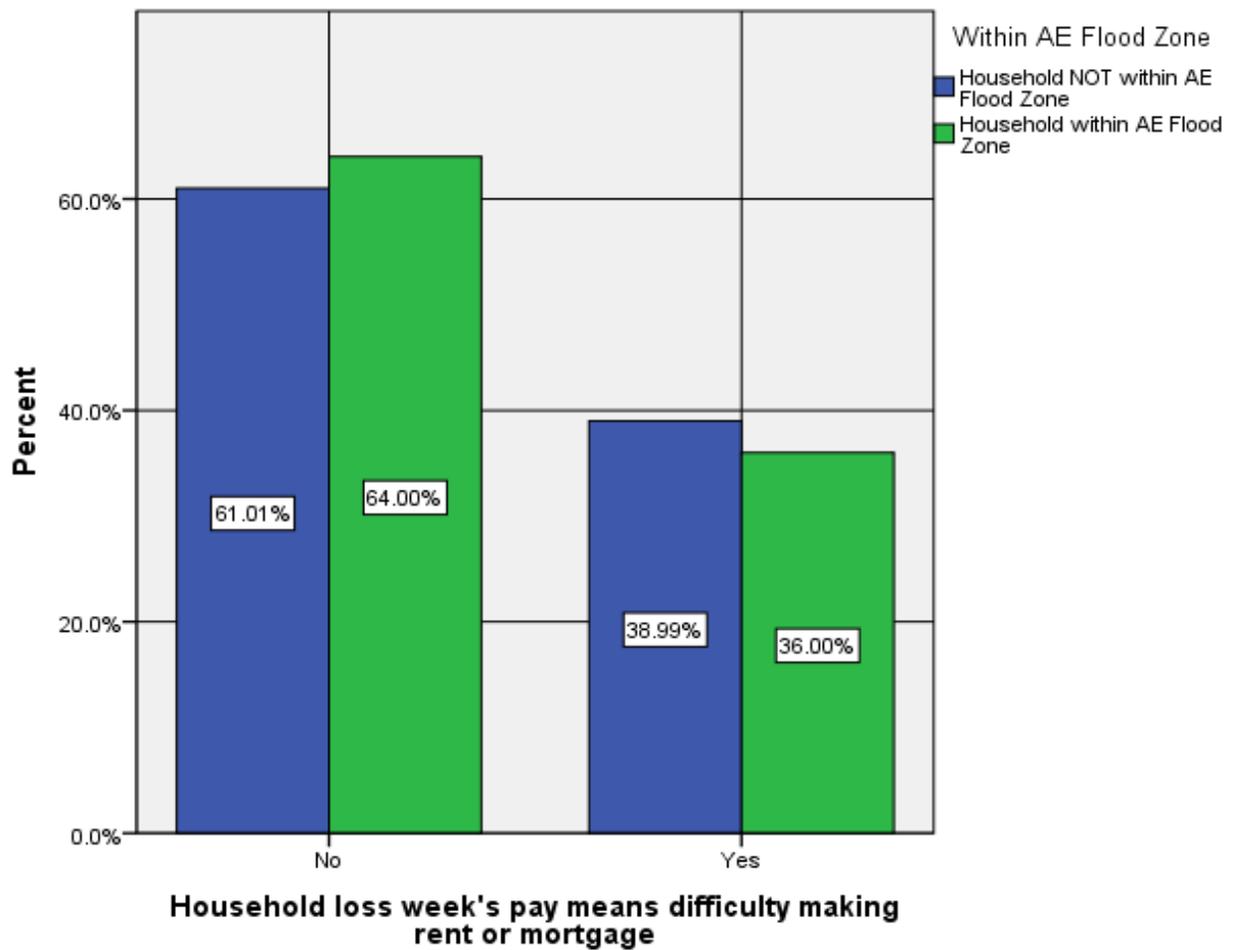
### Loss Week's Pay Means Difficulty

Households were asked whether or not a loss of a week's pay will result in difficulty making their rent or mortgage. Nearly 39 percent of households report that a loss of a week's pay will result in difficulty making their rent or mortgage, while about 61 percent report a loss of a week's pay will not result in difficulty making their rent or mortgage.



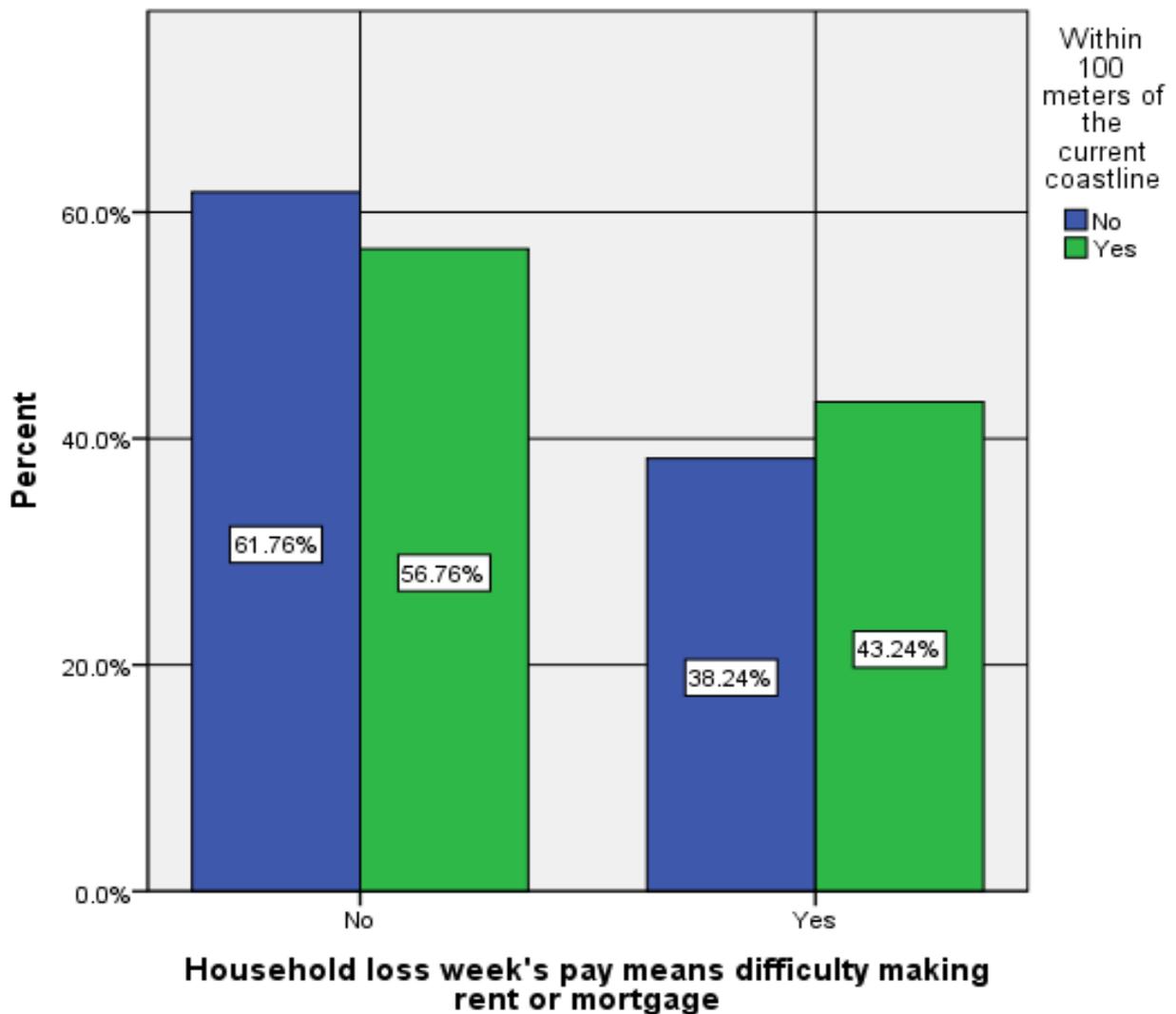
### Loss Week's Pay Means Difficulty .. by .. AE Flood Zone

Households were asked whether or not a loss of a week's pay will result in difficulty making their rent or mortgage. These households are disaggregated based on whether or not they are located within an AE flood zone. For those households located within the flood zone, 36 percent report that a loss of a week's pay will result in difficulty making their rent or mortgage, while 64 percent report no difficulty. For those households not located within the flood zone, nearly 39 percent report that a loss of a week's pay will result in difficulty making their rent or mortgage and about 61 percent report no difficulty.



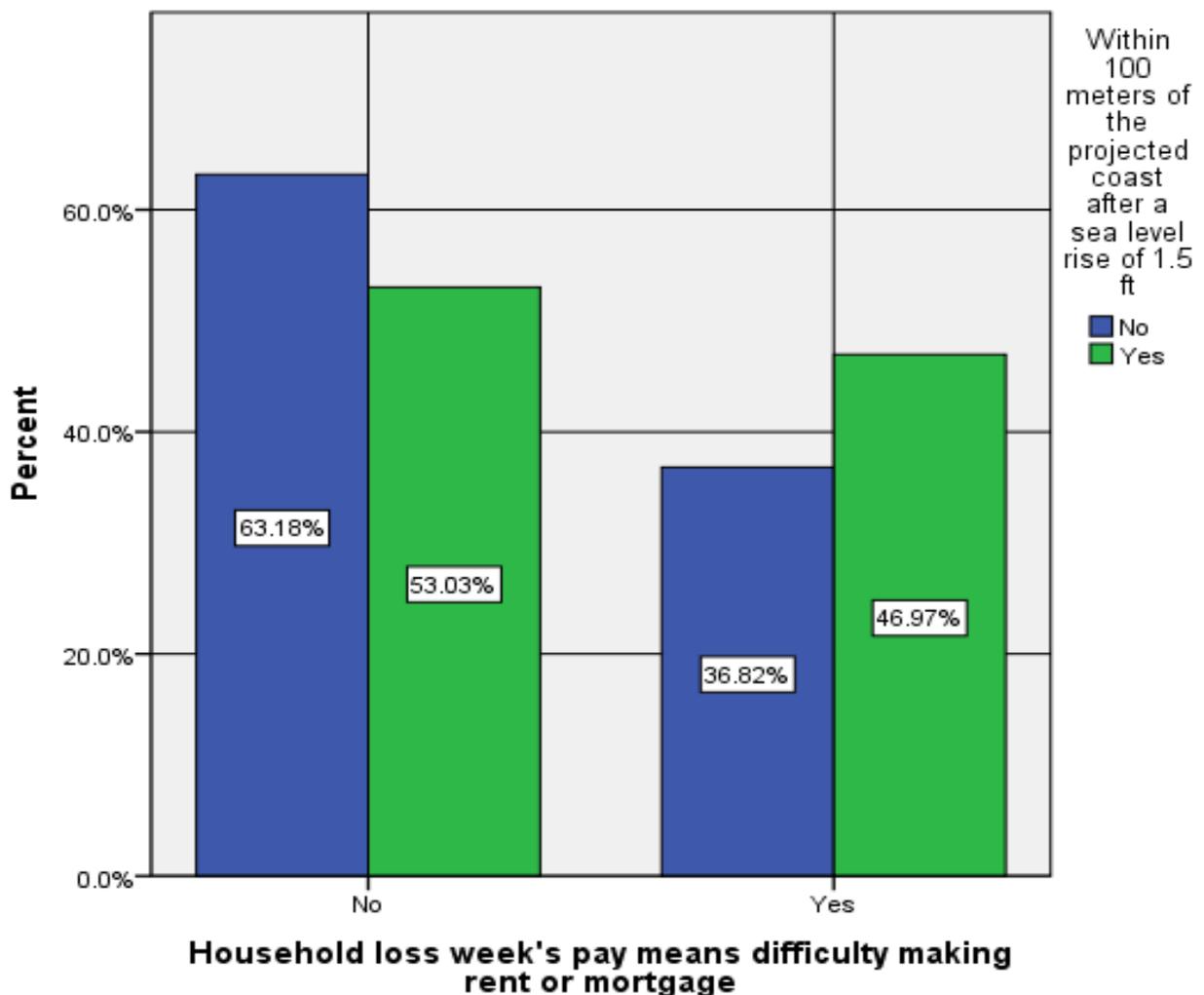
### Loss Week's Pay Means Difficulty .. by .. Within 100m of the Current Coastline

Households were asked whether or not a loss of a week's pay will result in difficulty making their rent or mortgage. These households are disaggregated based on whether or not they are located within 100 meters of the current coastline. For those households located within 100 meters of the current coastline, about 43 percent report that a loss of a week's pay will result in difficulty making their rent or mortgage, while approximately 57 percent report no difficulty. For those households that are not located within 100 meters of the current coastline, about 38 percent report that a loss of a week's pay will result in difficulty making their rent or mortgage and approximately 62 percent report no difficulty.



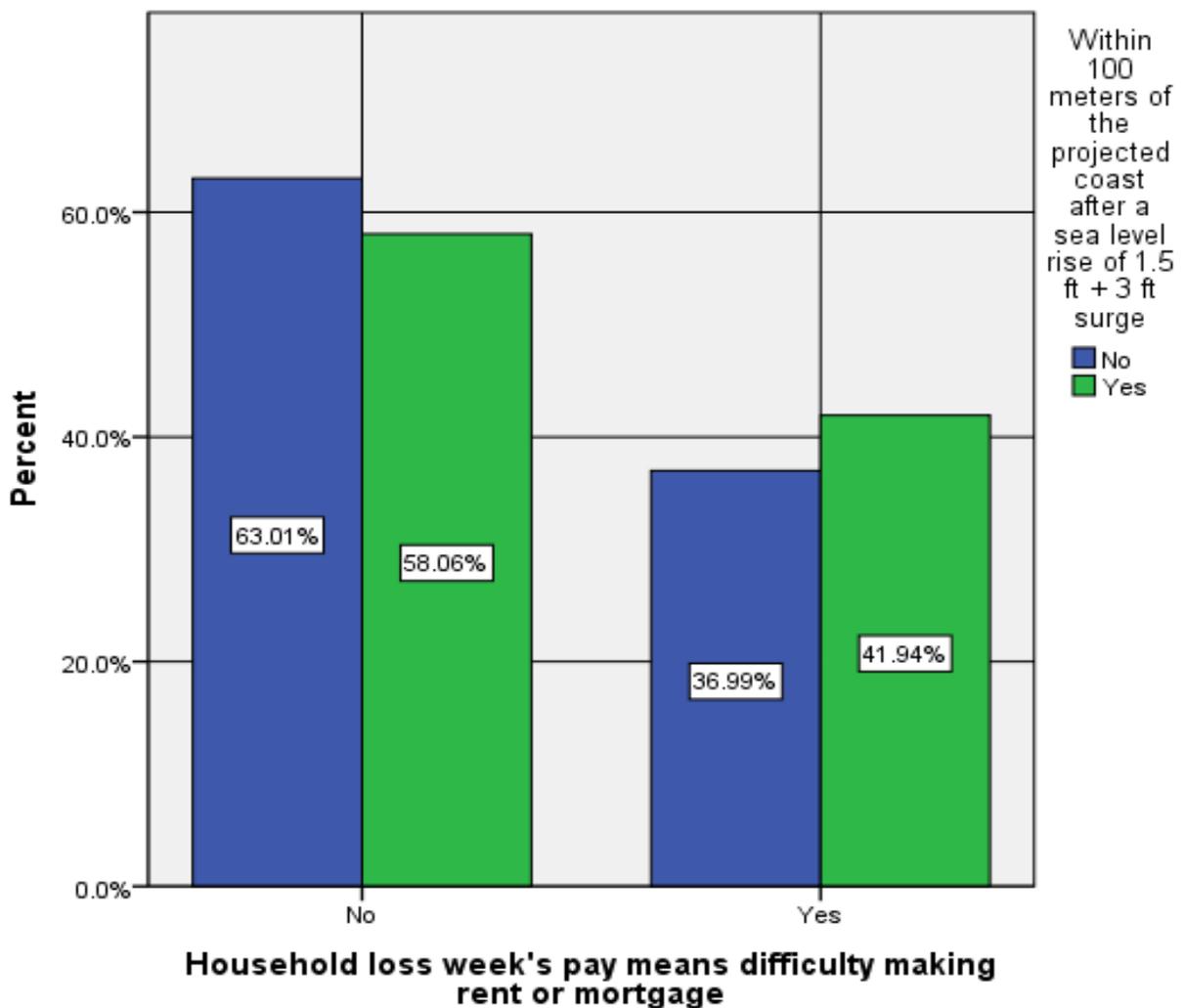
### Loss Week's Pay Means Difficulty .. by .. Within 100m of the Projected SLR Coastline

Households were asked whether or not a loss of a week's pay will result in difficulty making their rent or mortgage. These households are disaggregated based on whether or not they are located within 100 meters of the projected coastline after a sea level rise (SLR) of 1.5 feet. For those households located within 100 meters of the projected SLR coastline, nearly 47 percent report that a loss of a week's pay will result in difficulty making their rent or mortgage, while approximately 53 percent report no difficulty. For those households that are not located within 100 meters of the projected SLR coastline, about 37 percent report that a loss of a week's pay will result in difficulty making their rent or mortgage and approximately 63 percent report no difficulty.



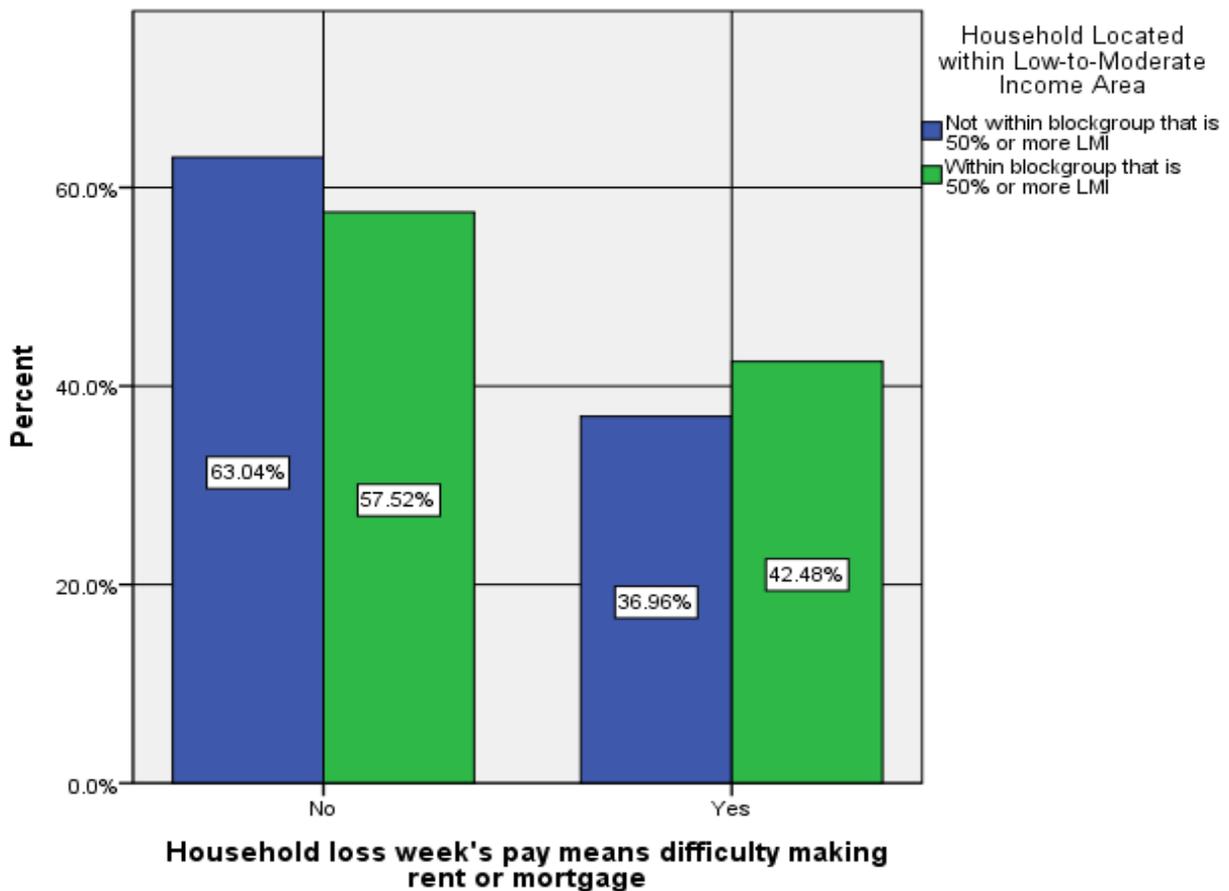
### Loss Week's Pay Means Difficulty .. by .. Within 100m of the Projects SLR+Surge Coastline

Households were asked whether or not a loss of a week's pay will result in difficulty making their rent or mortgage. These households are disaggregated based on whether or not they are located within 100 meters of the projected coastline after a sea level rise (SLR) of 1.5 feet and a storm surge of 3 feet. For those households located within 100 meters of the projected SLR+Surge coastline, nearly 42 percent report that a loss of a week's pay will result in difficulty making their rent or mortgage, while approximately 58 percent report no difficulty. For those households that are not located within 100 meters of the projected SLR+Surge coastline, about 37 percent report that a loss of a week's pay will result in difficulty making their rent or mortgage and approximately 63 percent report no difficulty.



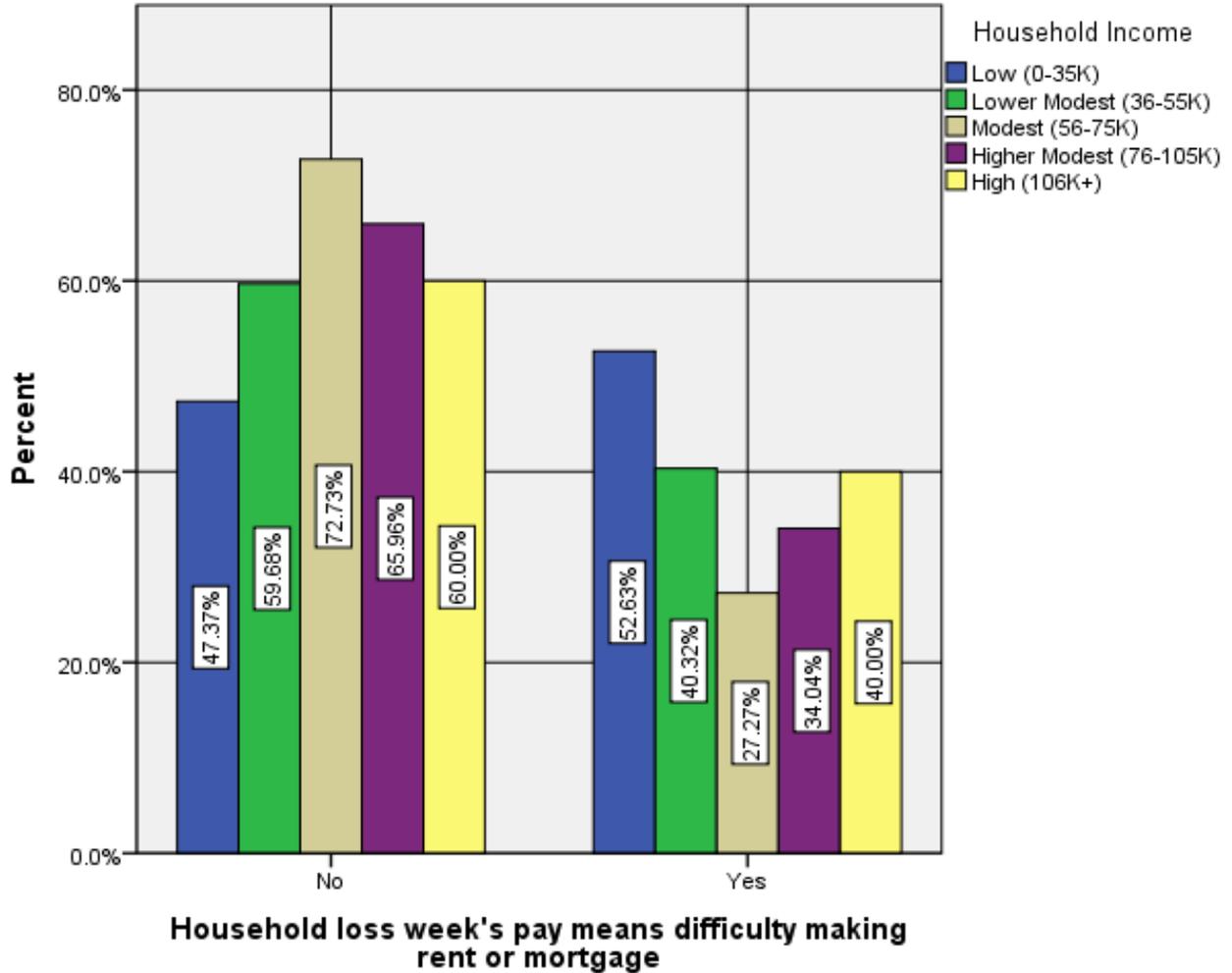
### Loss Week's Pay Means Difficulty .. by .. LMI Area

Households were asked whether or not a loss of a week's pay will result in difficulty making their rent or mortgage. These households are disaggregated based on whether or not they are located within a low-to-moderate income block group. For those households located within a low-to-moderate income block group, nearly 43 percent report that a loss of a week's pay will result in difficulty making their rent or mortgage, while approximately 58 percent report no difficulty. For those households that are not located within a low-to-moderate income block group, about 37 percent report that a loss of a week's pay will result in difficulty making their rent or mortgage and approximately 63 percent report no difficulty.



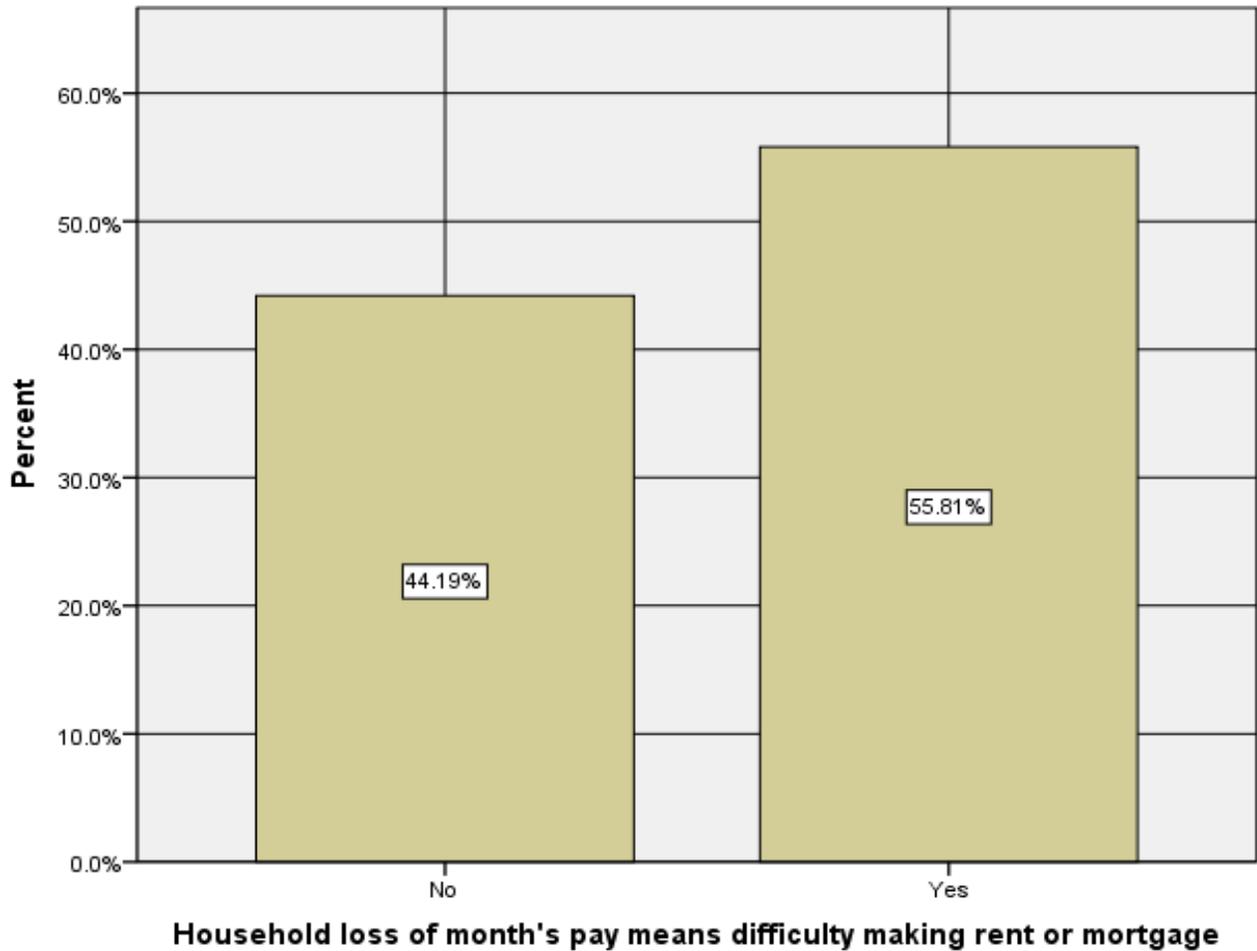
### Loss Week's Pay Means Difficulty .. by .. Income

Households were asked whether or not a loss of a week's pay will result in difficulty making their rent or mortgage. These households are disaggregated by household annual income. The following approximate percent of households report that a loss of a week's pay will result in difficulty making their rent or mortgage: 52 percent low, 40 percent lower modest, 27 percent modest, 34 percent higher modest, and 40 percent high.



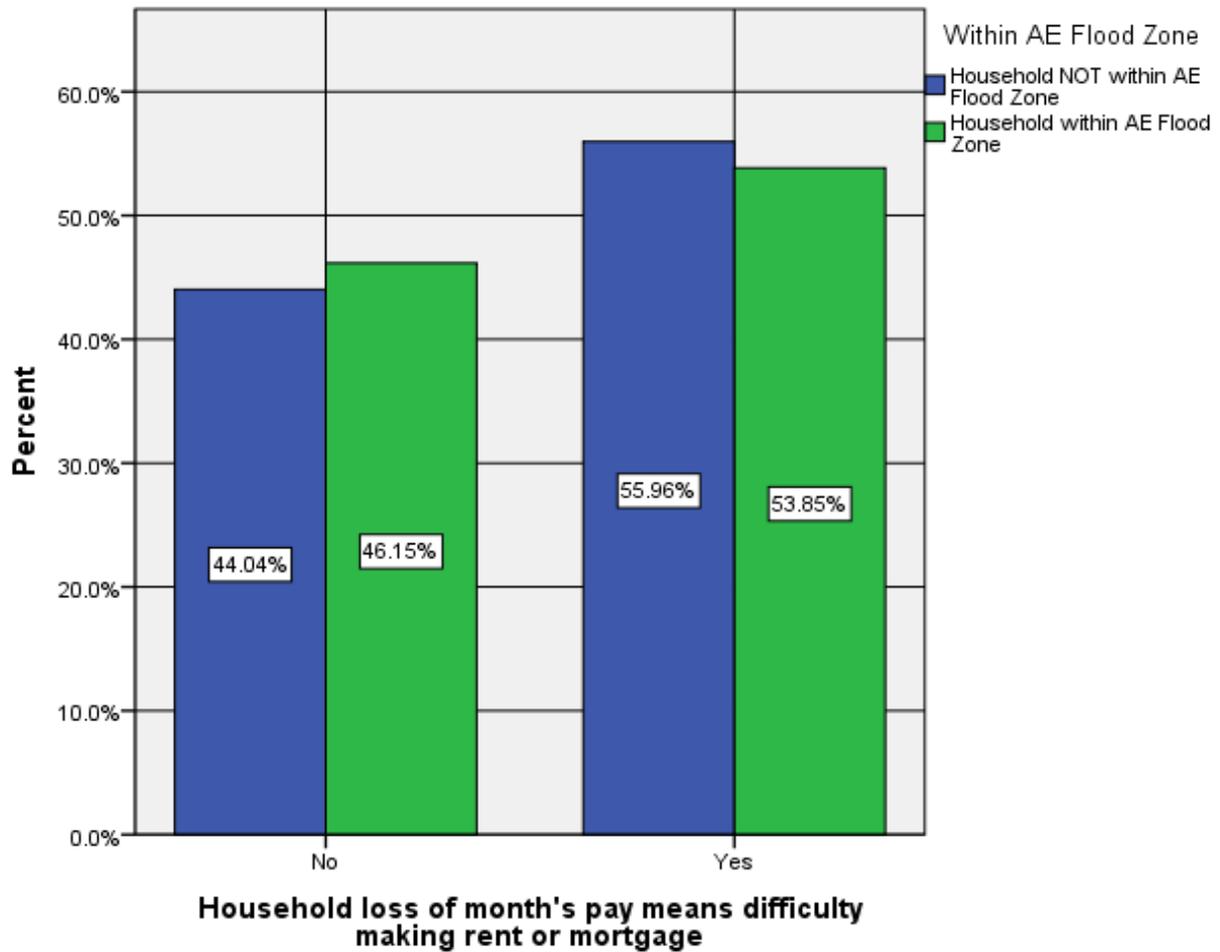
### Loss Month's Pay Means Difficulty

Households were asked whether or not a loss of a month's pay will result in difficulty making their rent or mortgage. Nearly 56 percent of households report that a loss of a month's pay will result in difficulty making their rent or mortgage, while about 44 percent report a loss of a month's pay will not result in difficulty making their rent or mortgage.



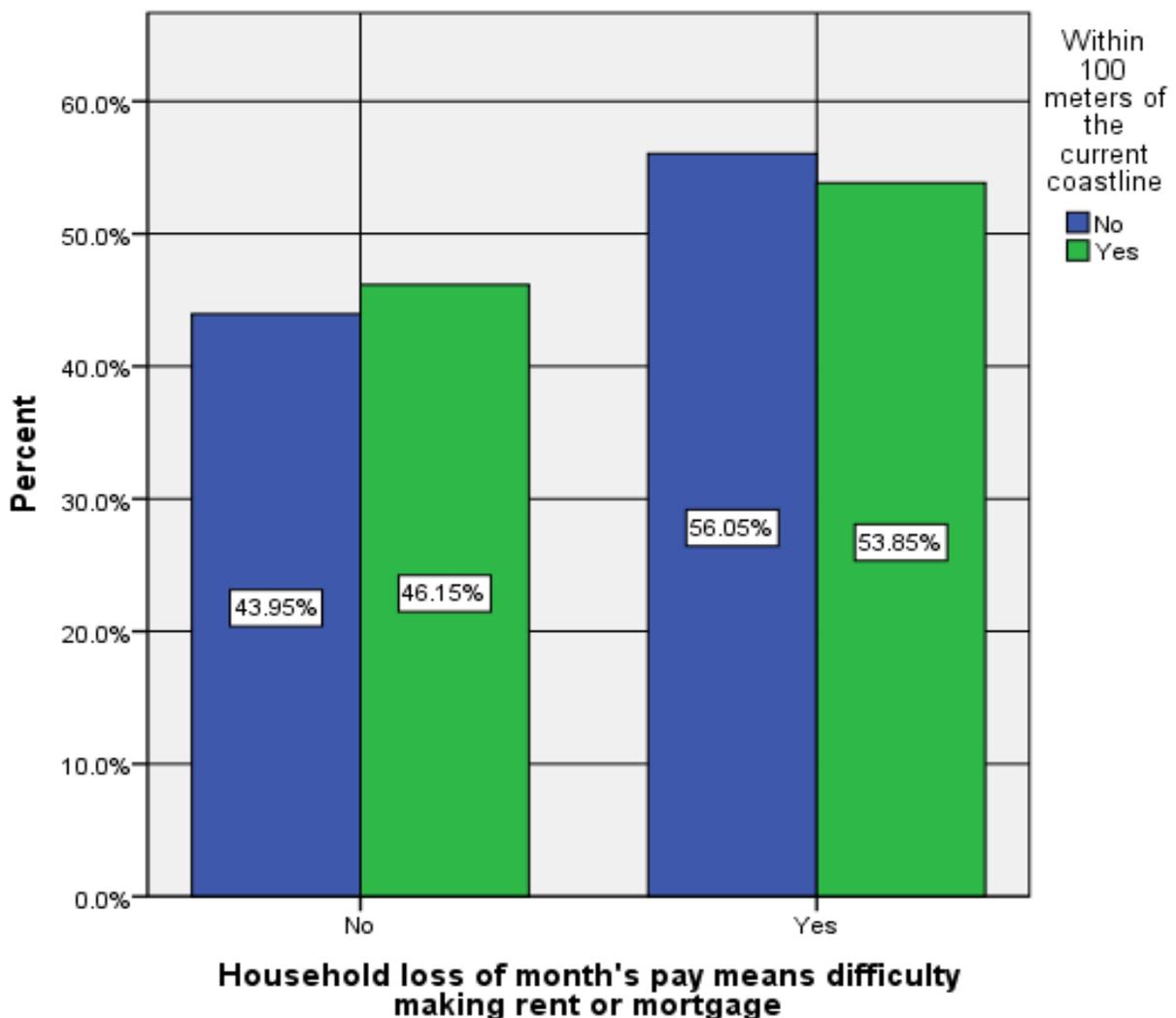
### Loss Month's Pay Means Difficulty .. by .. AE Flood Zone

Households were asked whether or not a loss of a month's pay will result in difficulty making their rent or mortgage. These households are disaggregated based on whether or not they are located within an AE flood zone. For those households located within the flood zone, nearly 54 percent report that a loss of a month's pay will result in difficulty making their rent or mortgage, while about 46 percent report no difficulty. For those households not located within the flood zone, nearly 56 percent report that a loss of a month's pay will result in difficulty making their rent or mortgage and about 44 percent report no difficulty.



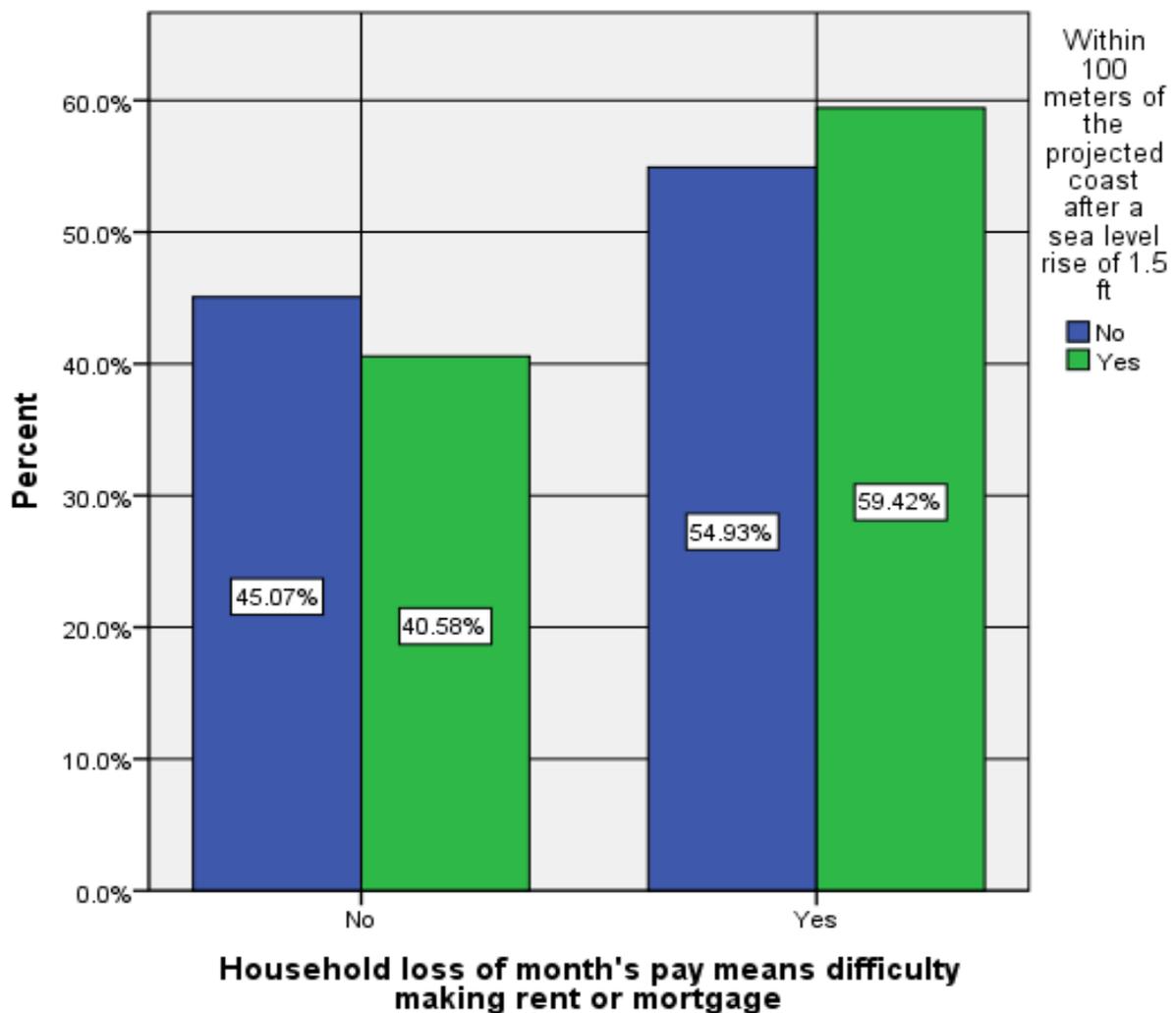
### Loss Month's Pay Means Difficulty .. by .. Within 100 Meters of the Current Coastline

Households were asked whether or not a loss of a month's pay will result in difficulty making their rent or mortgage. These households are disaggregated based on whether or not they are located within 100 meters of the current coastline. For those households located within 100 meters of the current coastline, nearly 54 percent report that a loss of a month's pay will result in difficulty making their rent or mortgage, while approximately 46 percent report no difficulty. For those households that are not located within 100 meters of the current coastline, about 56 percent report that a loss of a month's pay will result in difficulty making their rent or mortgage and approximately 44 percent report no difficulty.



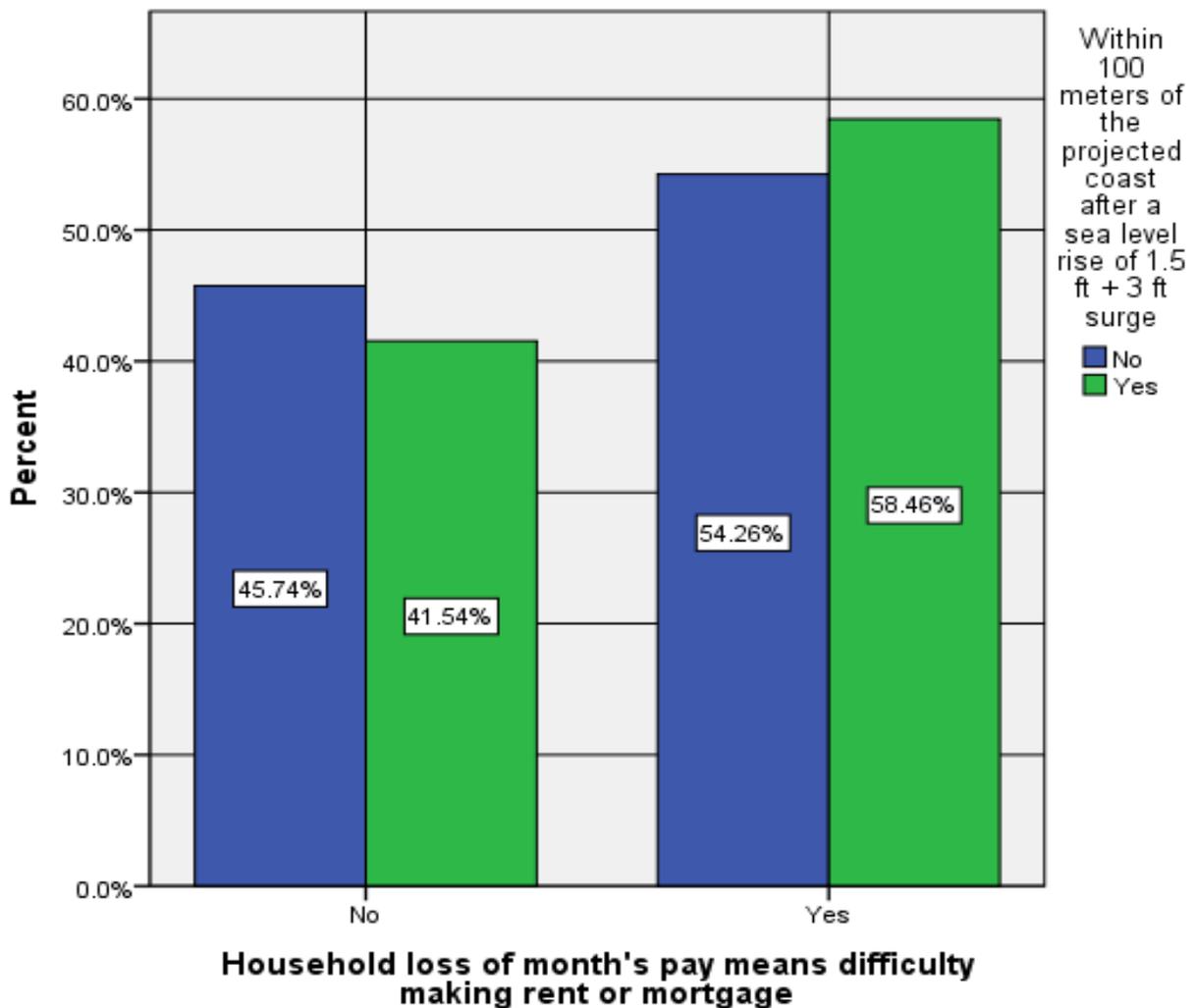
### Loss Month's Pay Means Difficulty .. by .. Within 100 Meters of the Projected SLR Coastline

Households were asked whether or not a loss of a month's pay will result in difficulty making their rent or mortgage. These households are disaggregated based on whether or not they are located within 100 meters of the projected coastline after a sea level rise (SLR) of 1.5 feet. For those households located within 100 meters of the projected SLR coastline, about 59 percent report that a loss of a month's pay will result in difficulty making their rent or mortgage, while approximately 41 percent report no difficulty. For those households that are not located within 100 meters of the projected SLR coastline, nearly 55 percent report that a loss of a month's pay will result in difficulty making their rent or mortgage and approximately 45 percent report no difficulty.



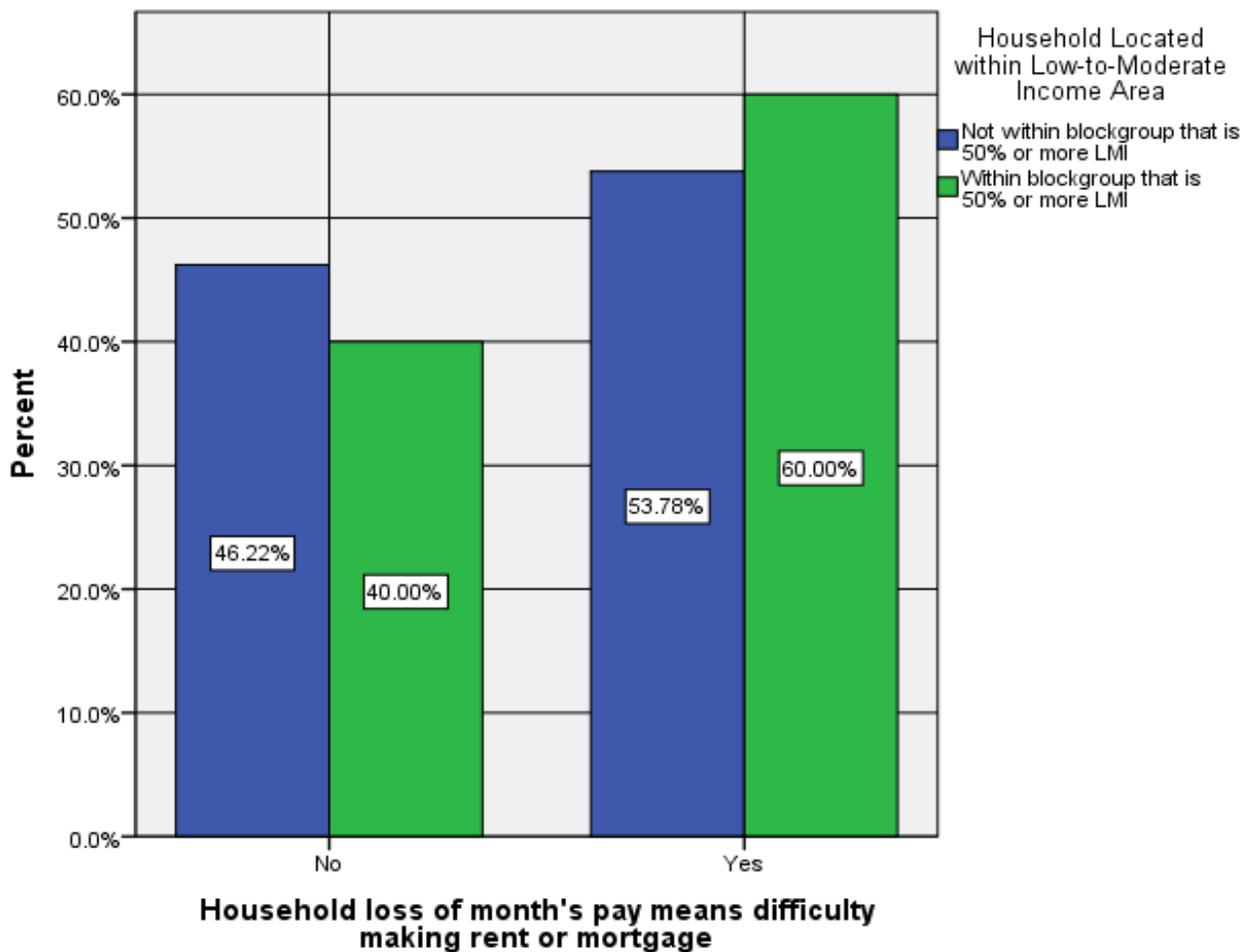
### Loss Month's Pay Means Difficulty .. by .. Within 100 Meters of the Projects SLR+Surge Coastline

Households were asked whether or not a loss of a month's pay will result in difficulty making their rent or mortgage. These households are disaggregated based on whether or not they are located within 100 meters of the projected coastline after a sea level rise (SLR) of 1.5 feet and a storm surge of 3 feet. For those households located within 100 meters of the projected SLR+Surge coastline, about 58 percent report that a loss of a month's pay will result in difficulty making their rent or mortgage, while approximately 42 percent report no difficulty. For those households that are not located within 100 meters of the projected SLR+Surge coastline, about 54 percent report that a loss of a month's pay will result in difficulty making their rent or mortgage and nearly 46 percent report no difficulty.



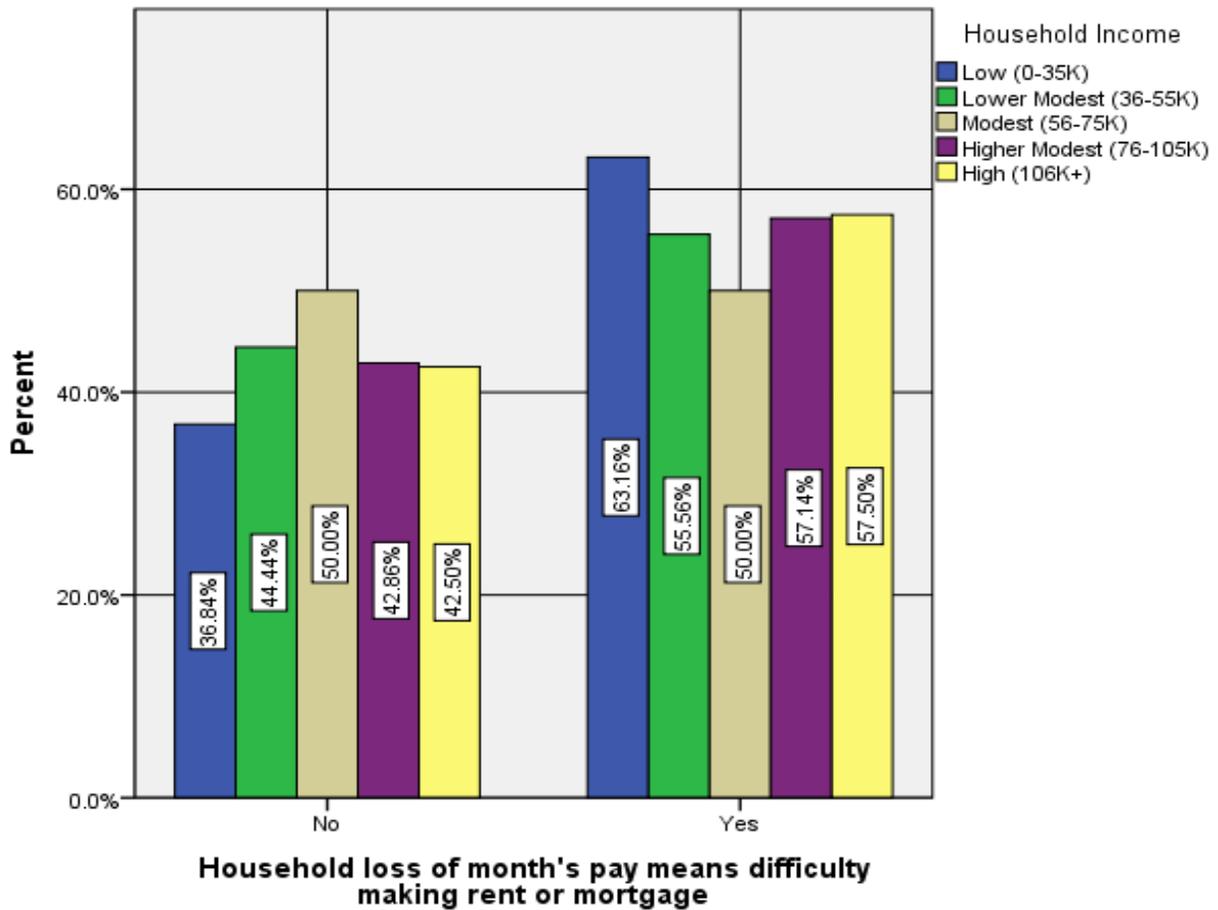
### Loss Month's Pay Means Difficulty .. by .. LMI Area

Households were asked whether or not a loss of a month's pay will result in difficulty making their rent or mortgage. These households are disaggregated based on whether or not they are located within a low-to-moderate income block group. For those households located within a low-to-moderate income block group, 60 percent report that a loss of a month's pay will result in difficulty making their rent or mortgage, 40 percent report no difficulty. For those households that are not located within a low-to-moderate income block group, nearly 54 percent report that a loss of a month's pay will result in difficulty making their rent or mortgage and approximately 46 percent report no difficulty.



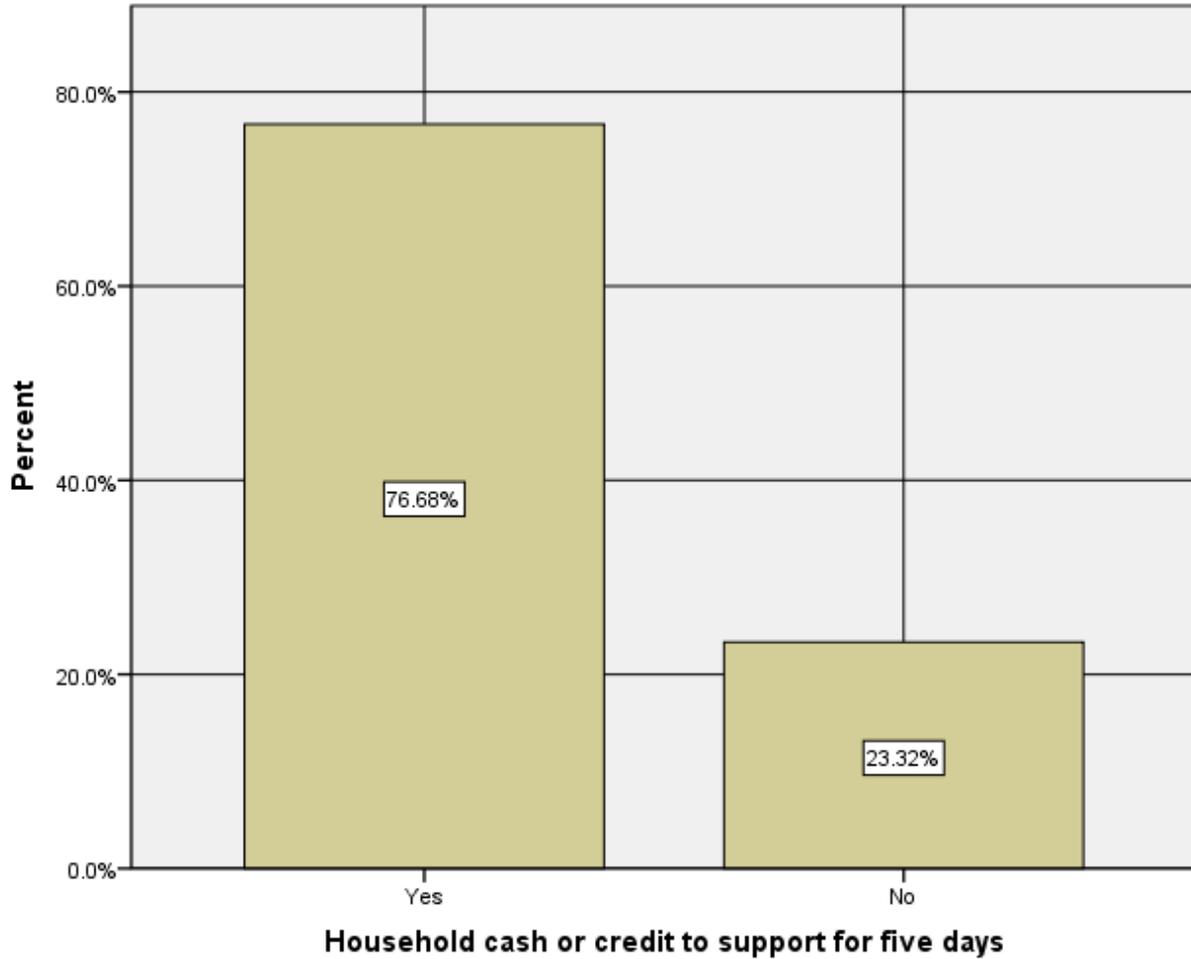
### Loss Month's Pay Means Difficulty .. by .. Income

Households were asked whether or not a loss of a month's pay will result in difficulty making their rent or mortgage. These households are disaggregated by household annual income. The following approximate percent of households report that a loss of a month's pay will result in difficulty making their rent or mortgage: 37 percent low, 44 percent lower modest, 50 percent modest, 43 percent higher modest, and 43 percent high.



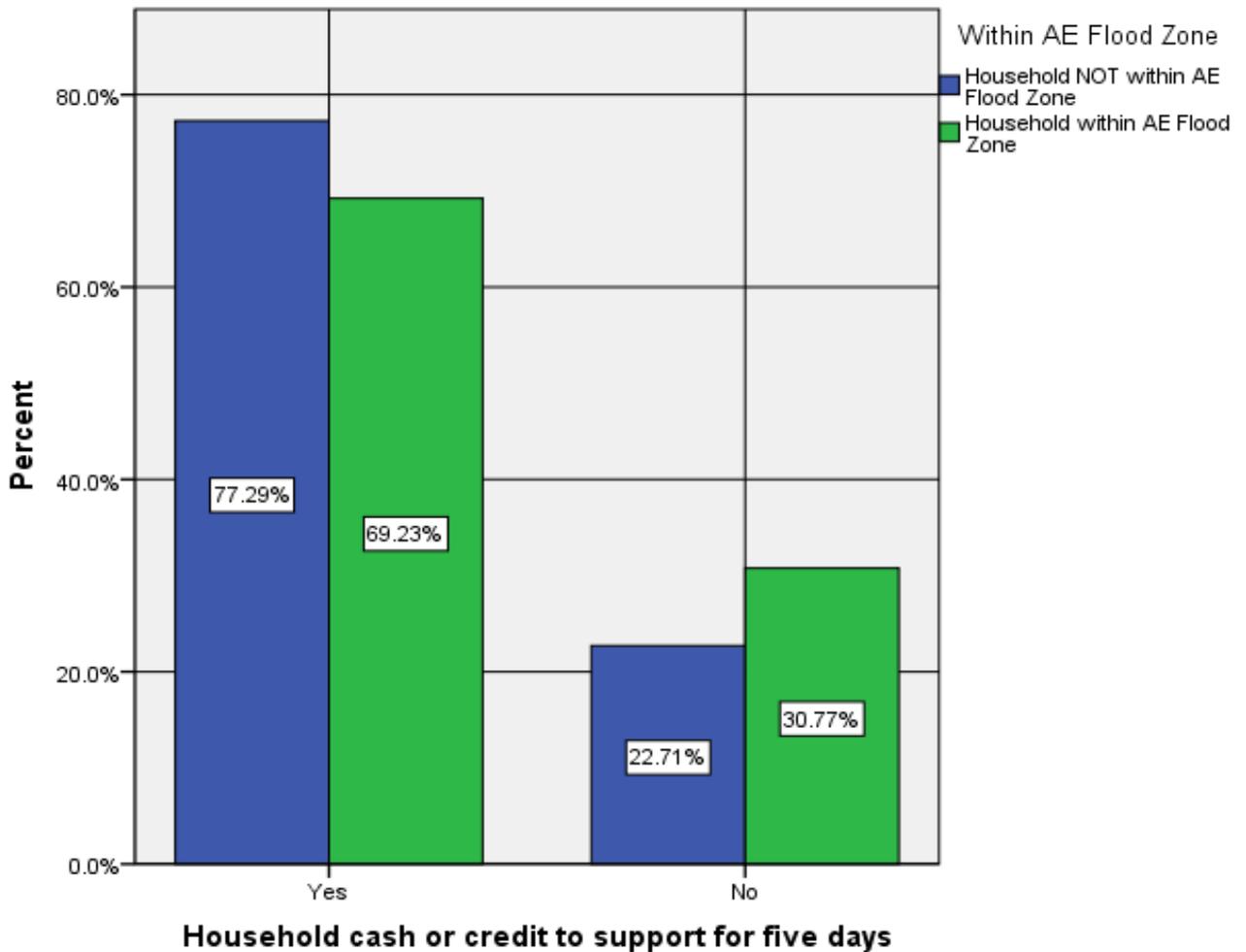
### Cash or Credit to Support Household

Households were asked whether or not, if required to evacuate Hampton Roads, they have enough cash or credit to support all household members for five days. Nearly 77 percent of households report that they have enough cash or credit to support the household for five days, while about 23 percent report that they not having enough cash or credit to support the household for five days.



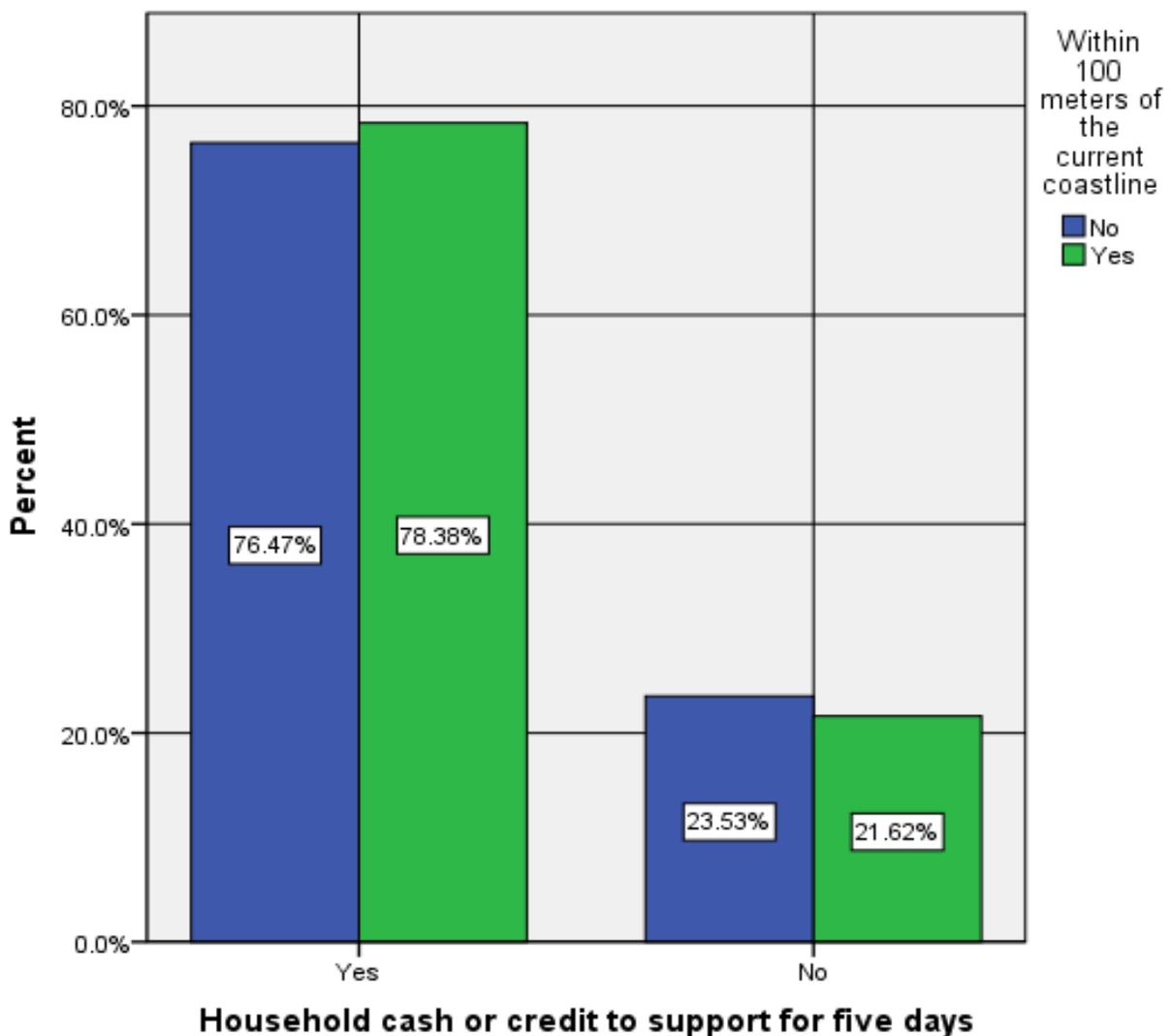
### Cash or Credit to Support Household .. by .. AE Flood Zone

Households were asked whether or not, if required to evacuate Hampton Roads, they have enough cash or credit to support all household members for five days. These households are disaggregated based on whether or not they are located within an AE flood zone. For those households located within the flood zone, about 69 percent report that they have enough cash or credit, while approximately 31 percent report not having enough cash or credit. For those households not located within the flood zone, about 77 percent report that they have enough cash or credit and nearly 23 percent report not having enough cash or credit.



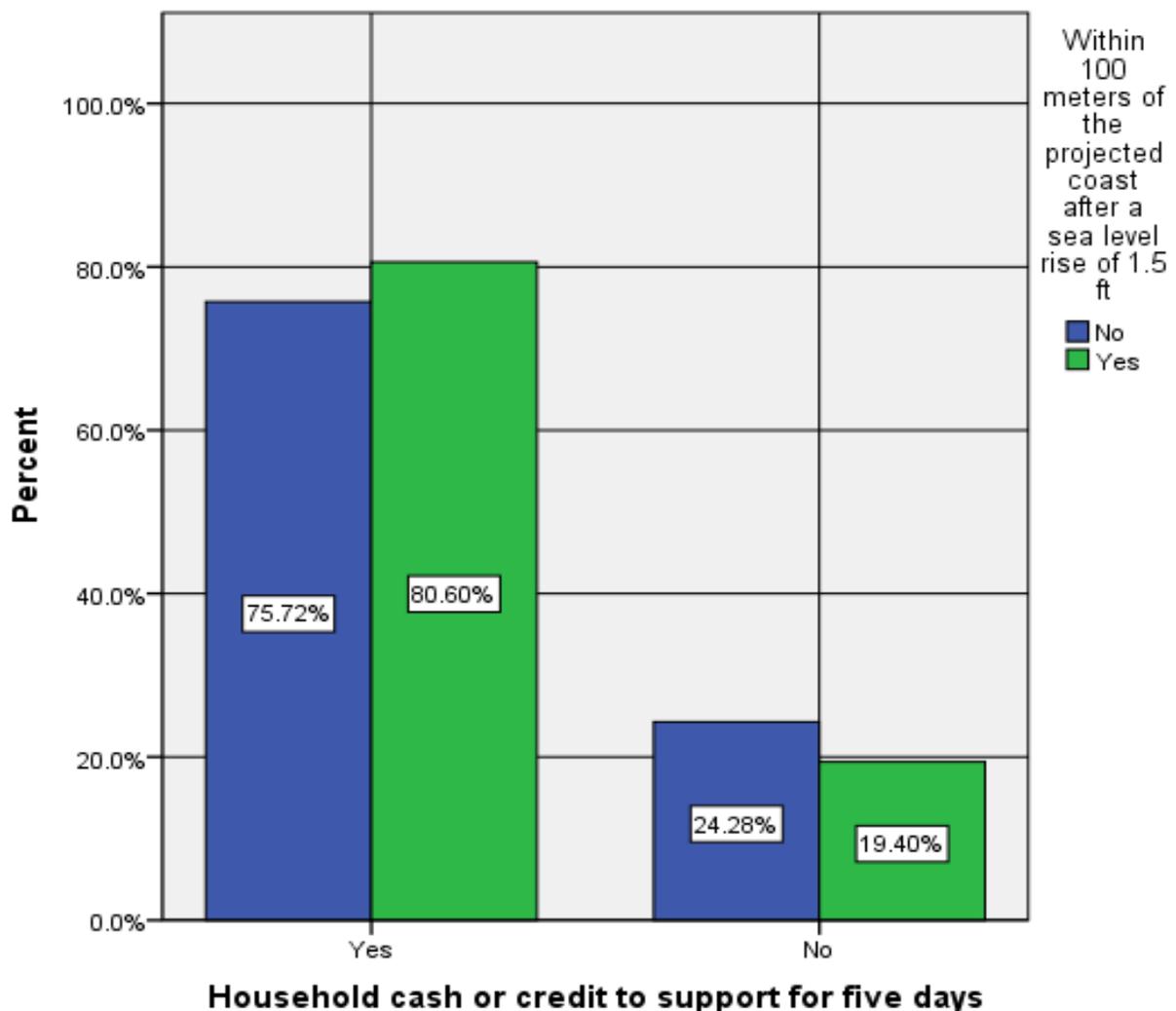
### Cash or Credit to Support Household .. by .. Within 100 Meters of the Current Coastline

Households were asked whether or not, if required to evacuate Hampton Roads, they have enough cash or credit to support all household members for five days. These households are disaggregated based on whether or not they are located within 100 meters of the current coastline. For those households located within 100 meters of the current coastline, about 78 percent report that they have enough cash or credit, while approximately 22 percent report not having enough cash or credit. For those households not located within 100 meters of the current coastline, about 76 percent report that they have enough cash or credit and nearly 24 percent report not having enough cash or credit.



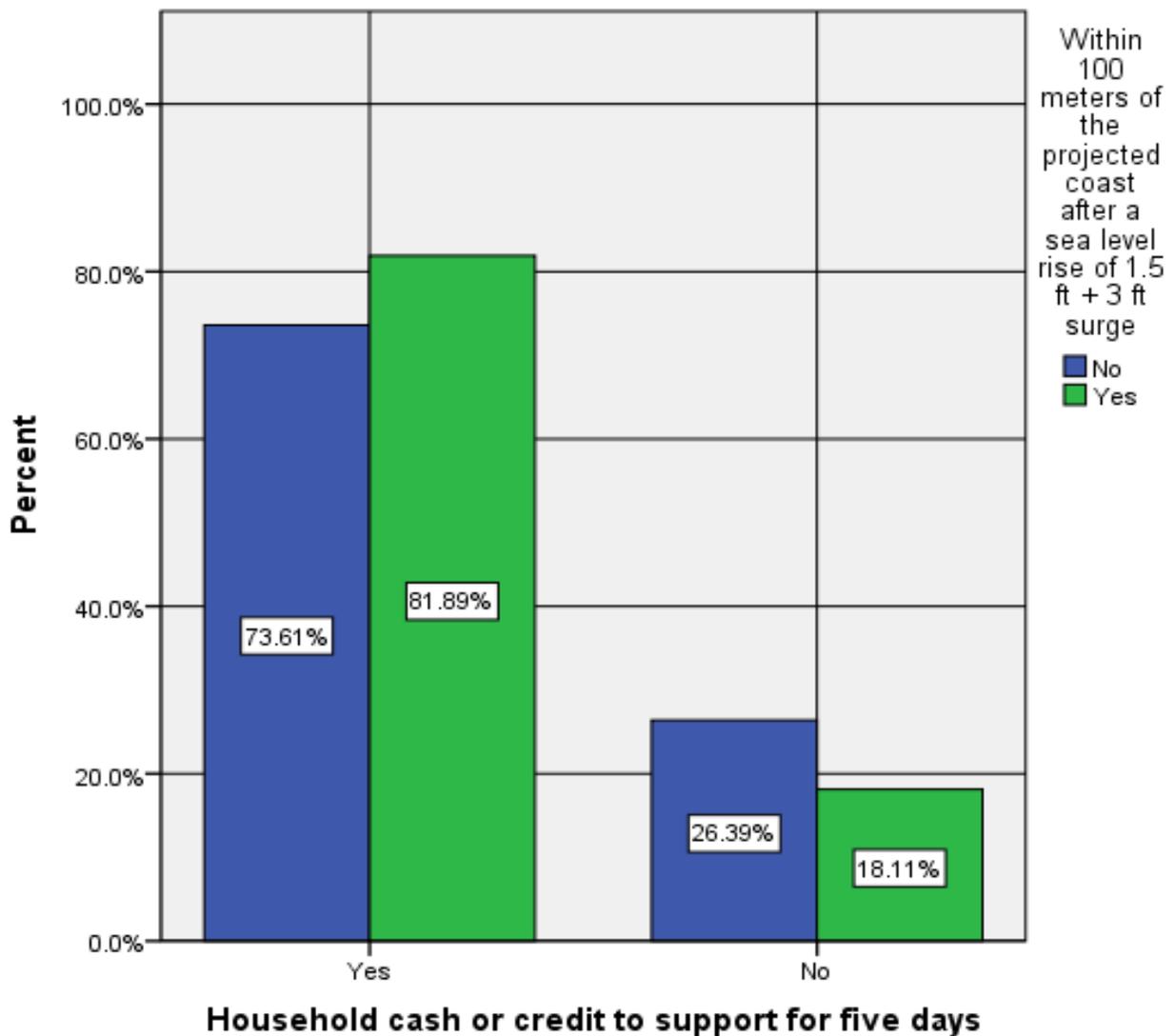
### Cash or Credit to Support Household .. by .. Within 100 Meters of the Projected SLR Coastline

Households were asked whether or not, if required to evacuate Hampton Roads, they have enough cash or credit to support all household members for five days. These households are disaggregated based on whether or not they are located within 100 meters of the projected coastline after a sea level rise (SLR) of 1.5 feet. For those households located within 100 meters of the projected SLR coastline, nearly 81 percent report that they have enough cash or credit, while approximately 19 percent report not having enough cash or credit. For those households not located within 100 meters of the projected SLR coastline, nearly 76 percent report that they have enough cash or credit and about 24 percent report not having enough cash or credit.



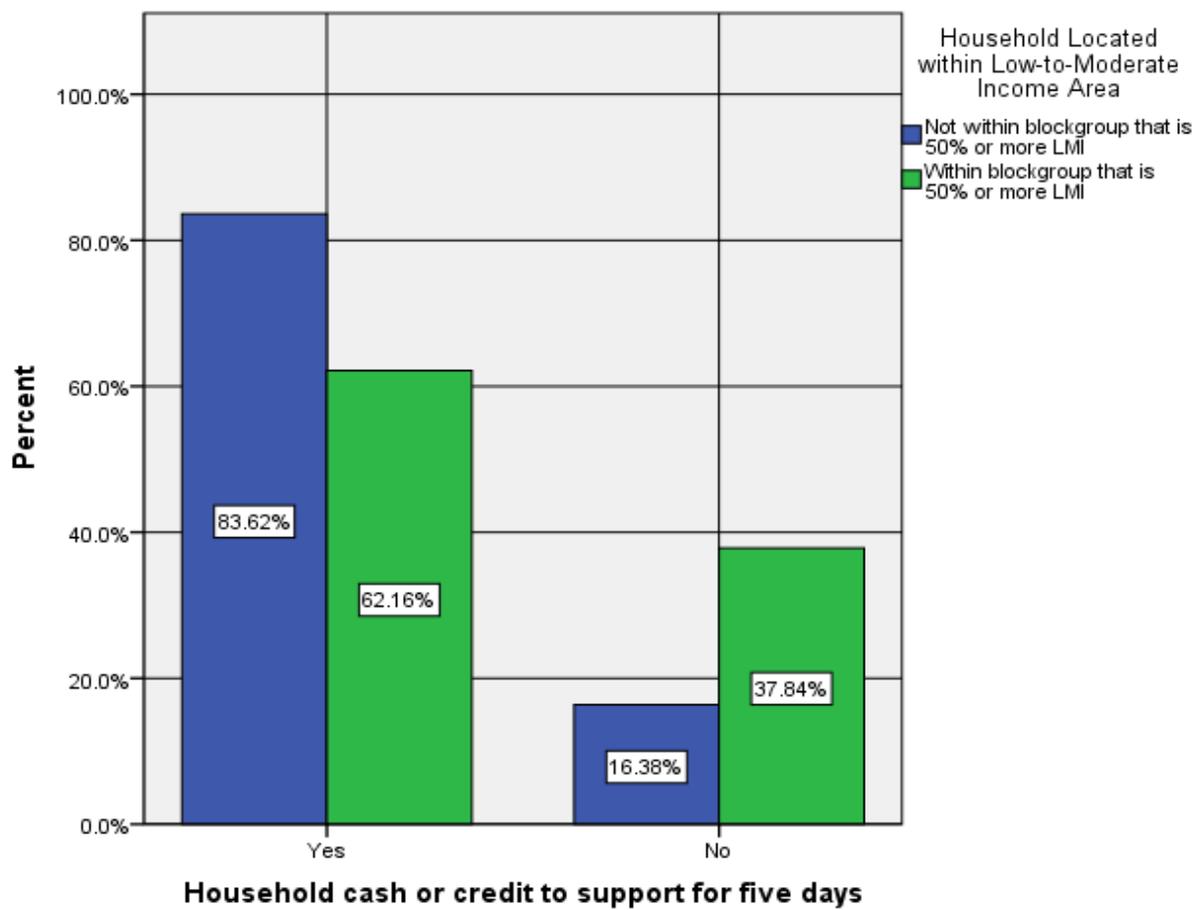
### Cash or Credit to Support Household .. by.. Within 100 Meters of the Projects SLR+Surge Coastline

Households were asked whether or not, if required to evacuate Hampton Roads, they have enough cash or credit to support all household members for five days. These households are disaggregated based on whether or not they are located within 100 meters of the projected coastline after a sea level rise (SLR) of 1.5 feet and a storm surge of 3 feet. For those households located within 100 meters of the projected SLR+Surge coastline, nearly 82 percent report that they have enough cash or credit, while approximately 18 percent report not having enough cash or credit. For those households not located within 100 meters of the projected SLR+Surge coastline, nearly 74 percent report that they have enough cash or credit and about 26 percent report not having enough cash or credit.



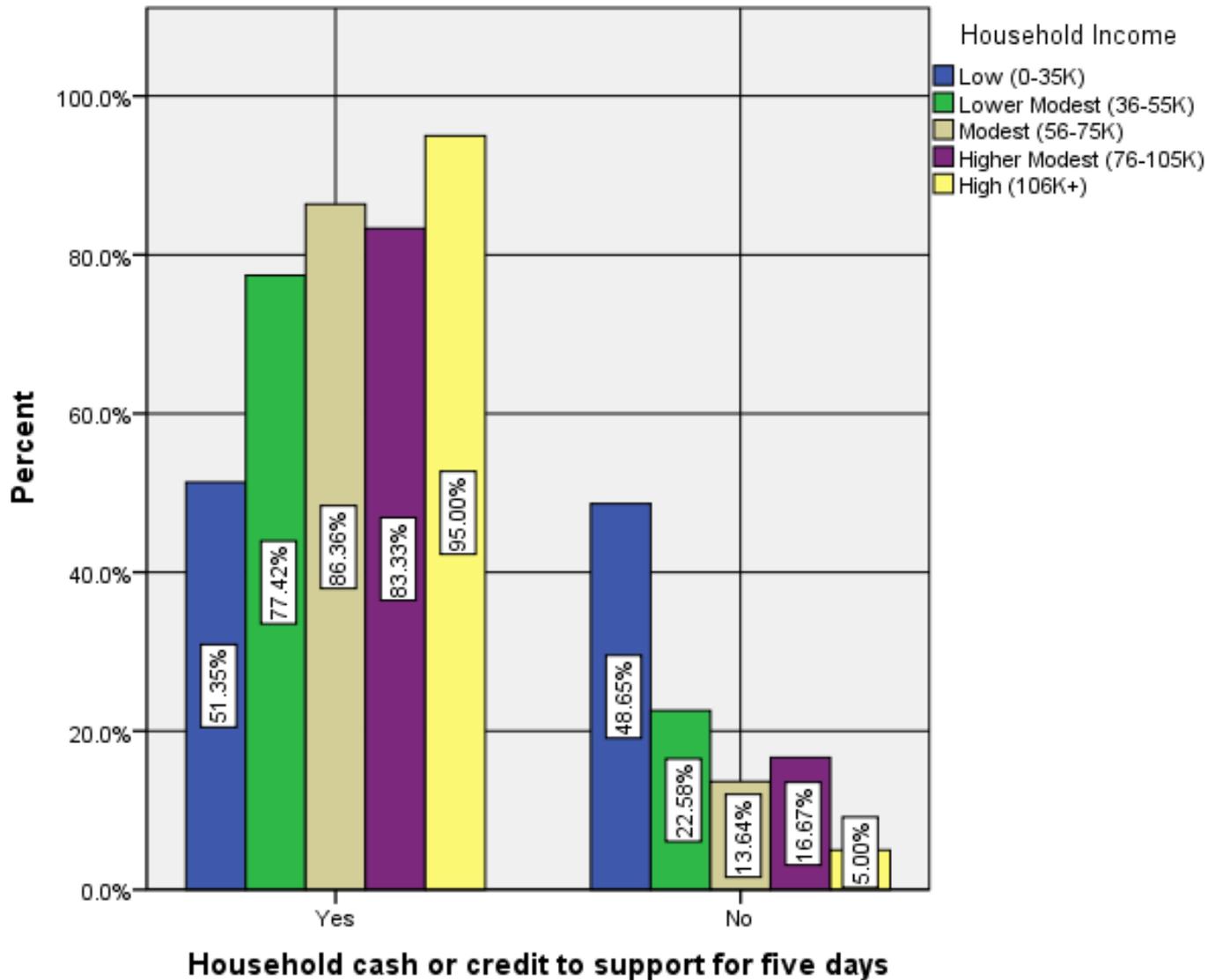
### Cash or Credit to Support Household .. by .. LMI Area

Households were asked whether or not, if required to evacuate Hampton Roads, they have enough cash or credit to support all household members for five days. These households are disaggregated by whether or not they are located within a low-to-moderate income block group. For those households located within a low-to-moderate income block group, about 62 percent report that they have enough cash or credit, while nearly 38 percent report not having enough cash or credit. For those households not located within a low-to-moderate income block group, nearly 84 percent report that they have enough cash or credit and about 16 percent report not having enough cash or credit.



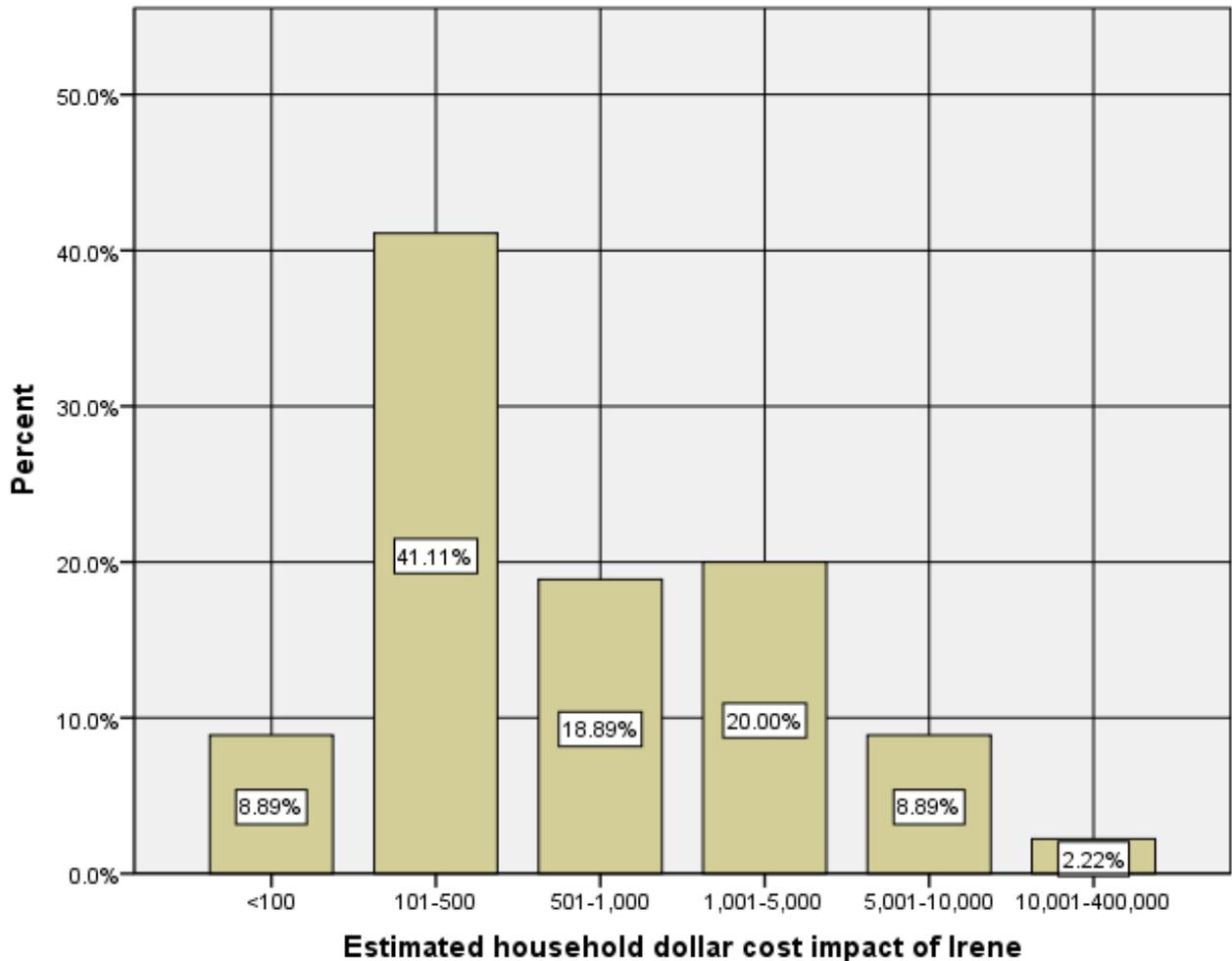
### Cash or Credit to Support Household .. by .. Income

Households were asked whether or not, if required to evacuate Hampton Roads, they have enough cash or credit to support all household members for five days. These households are disaggregated by household annual income. The following approximate percent of households report having enough cash or credit: 51 percent low, 77 percent lower modest, 86 percent modest, 83 percent higher modest, and 95 percent high.



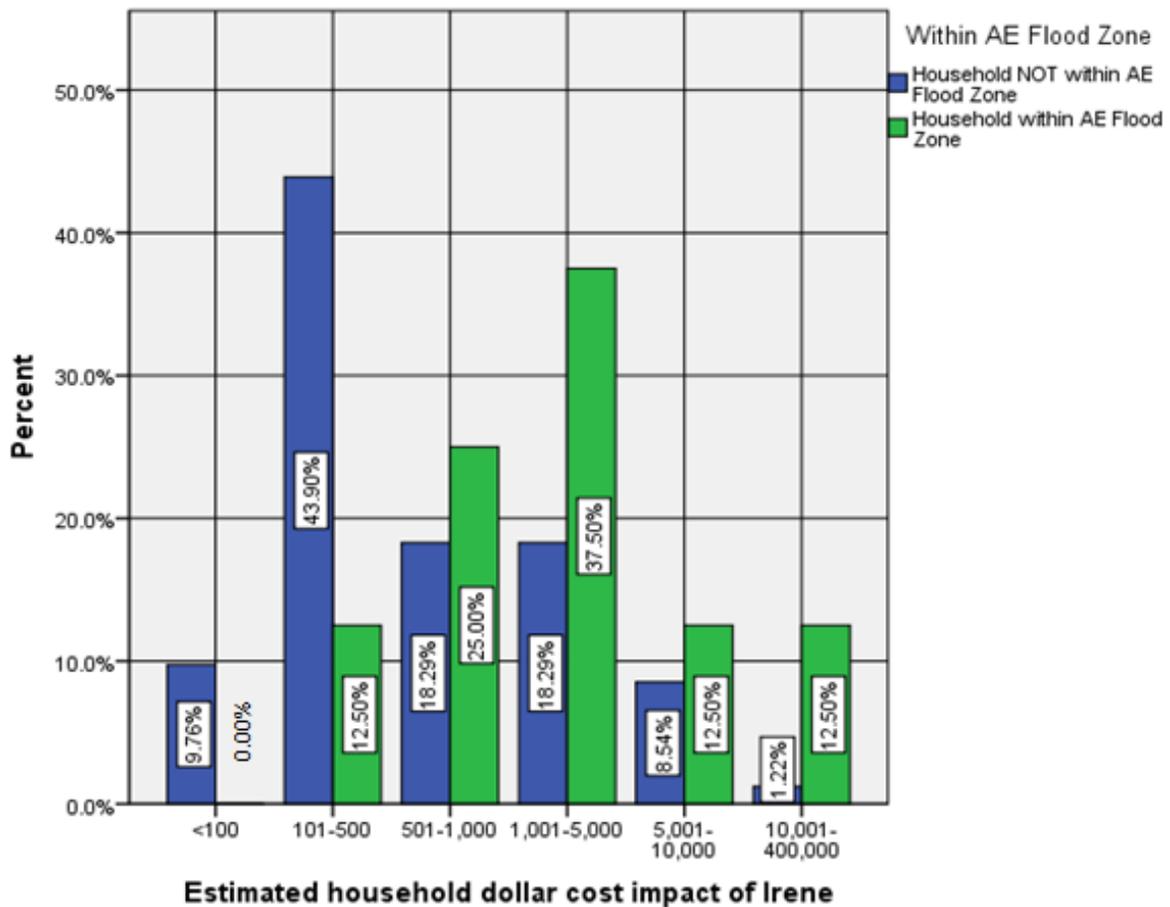
## Household Dollar Cost Impact

Households were asked to estimate the dollar cost impact of Hurricane Irene. The following approximate percent of households report the following ranges of dollar cost impacts: 9 percent (< \$100), 41 percent (\$101-\$500), 19 percent (\$501-\$1,000), 20 percent (\$1,001-\$5,000), 9 percent (\$5,001-\$10,000), and 2 percent (\$10,001-\$400,000).



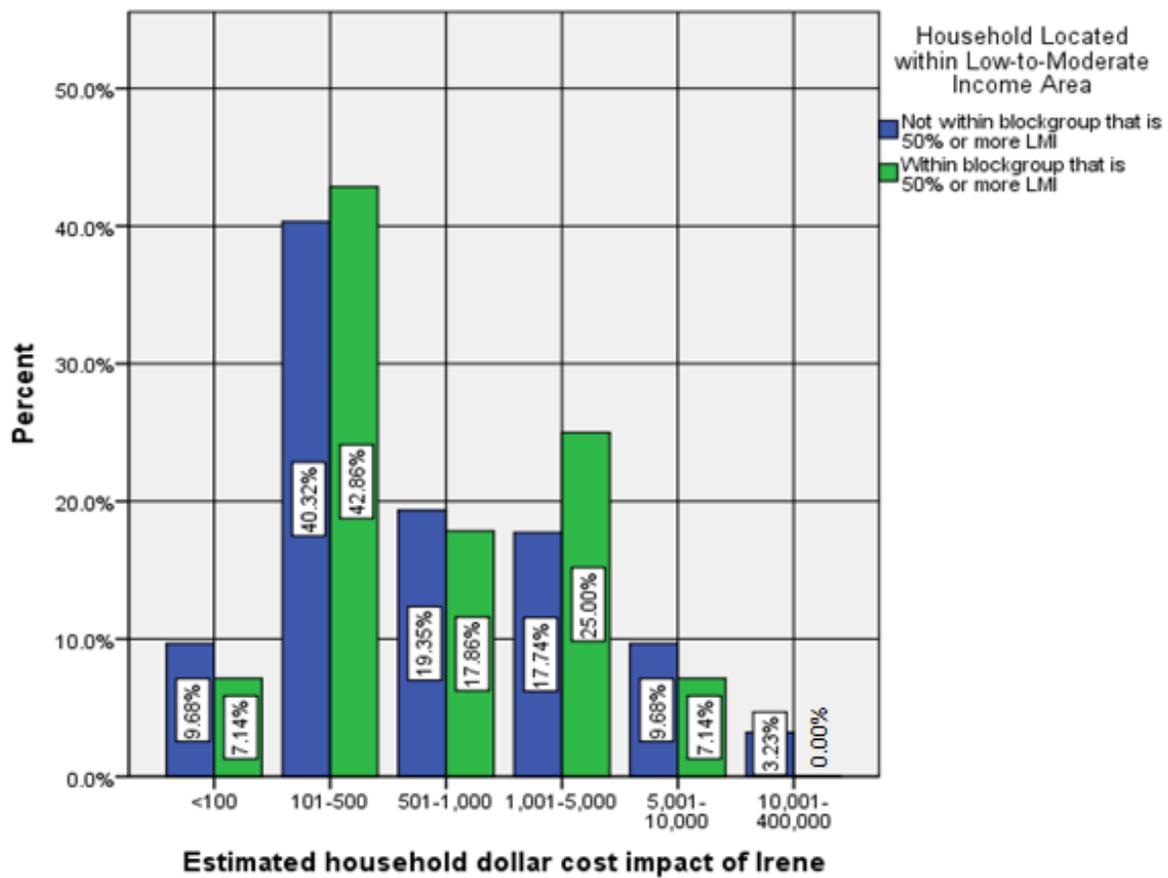
### Household Dollar Cost Impact .. by .. AE Flood Zone

Households were asked to estimate the dollar cost impact of Hurricane Irene. These households are disaggregated by whether or not they are located within an AE flood zone. Within the AE Flood Zone the following approximate percent of households report the following ranges of dollar cost impacts: 0 percent (< \$100), 13 percent (\$101-\$500), 25 percent (\$501-\$1,000), 38 percent (\$1,001-\$5,000), 13 percent (\$5,001-\$10,000), and 13 percent (\$10,001-\$400,000). Not within the AE Flood Zone the following approximate percent of households report the following ranges of dollar cost impacts: 10 percent (< \$100), 44 percent (\$101-\$500), 19 percent (\$501-\$1,000), 18 percent (\$1,001-\$5,000), 9 percent (\$5,001-\$10,000), and 1 percent (\$10,001-\$400,000).



### Household Dollar Cost Impact .. by .. LMI Area

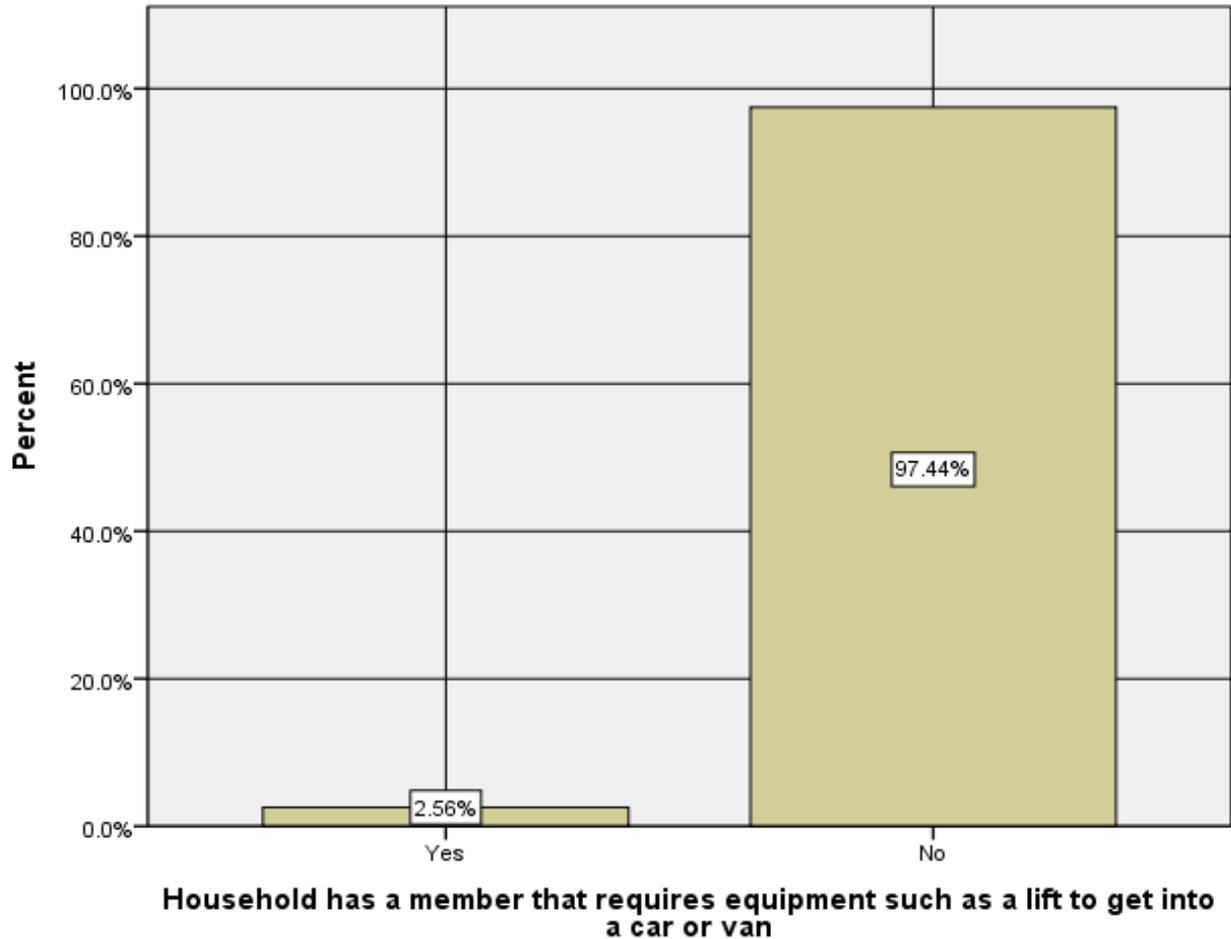
Households were asked to estimate the dollar cost impact of Hurricane Irene. These households are disaggregated by whether or not they are located within a low-to-moderate income block group. Within a low-to-moderate income block group the following approximate percent of households report the following ranges of dollar cost impacts: 7 percent (< \$100), 43 percent (\$101-\$500), 18 percent (\$501-\$1,000), 25 percent (\$1,001-\$5,000), 7 percent (\$5,001-\$10,000), and 0 percent (\$10,001-\$400,000). Not within a low-to-moderate income block group the following approximate percent of households report the following ranges of dollar cost impacts: 10 percent (< \$100), 40 percent (\$101-\$500), 19 percent (\$501-\$1,000), 18 percent (\$1,001-\$5,000), 10 percent (\$5,001-\$10,000), and 3 percent (\$10,001-\$400,000).



## Medical Vulnerability

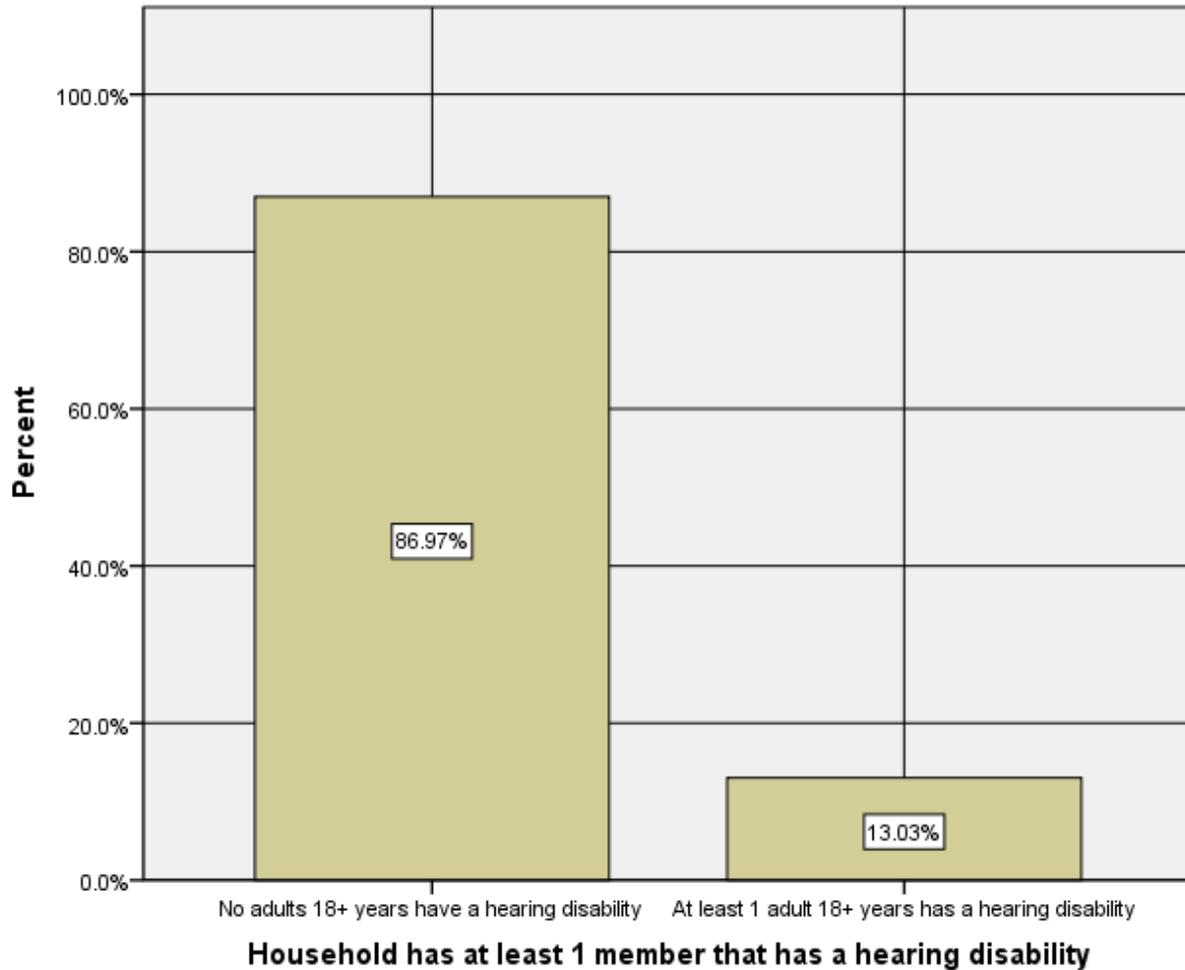
### Lift to Car or Van

Households were asked whether or not they have a member that requires equipment, such as a lift, to get into a car or van. Approximately 3 percent of households report an equipment requirement, while about 97 percent report no equipment requirement.



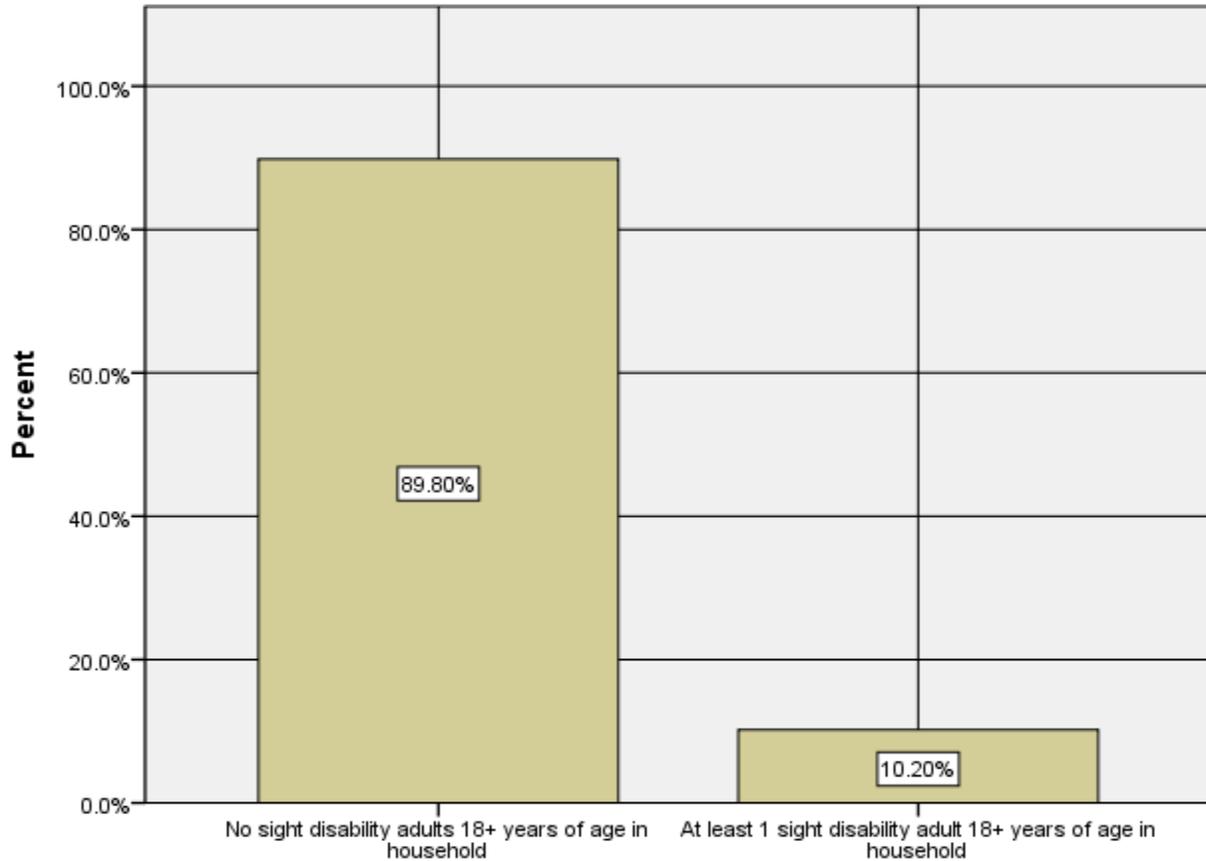
## Hearing Disability

Households were asked whether or not they have at least one adult member who is 18 years or older and has a hearing disability. Approximately 13 percent of households report at least one adult member who is 18 years or older and has a hearing disability, while nearly 87 percent report no such household member.



## Sight Disability

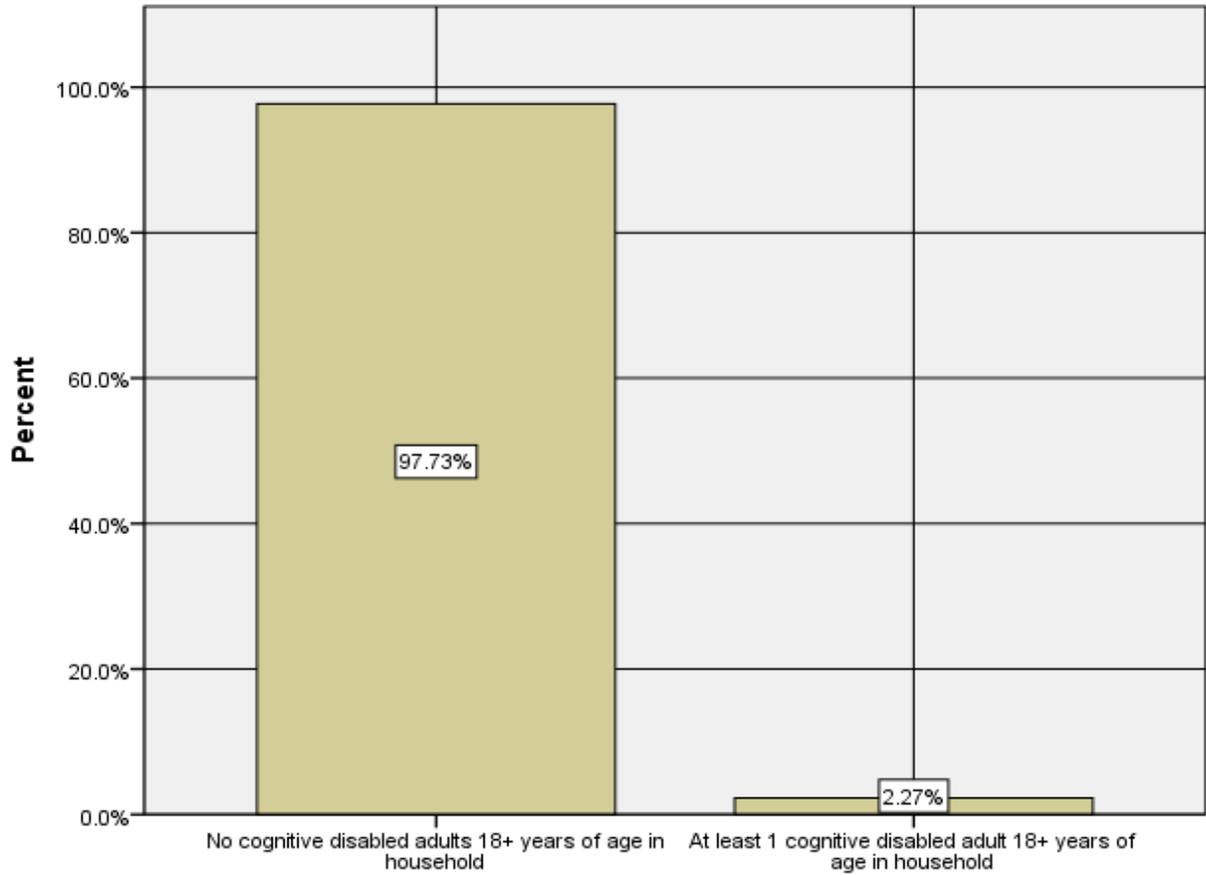
Households were asked whether or not they have at least one adult member who is 18 years or older and has a sight disability that interferes with normal daily activities. Approximately 10 percent of households report at least one adult member who is 18 years or older and has a sight disability that interferes with normal daily activities, while nearly 90 percent report no such household member.



**Households has at least one adult with a sight disability that interferes with normal daily activities.**

## Cognitive Disability

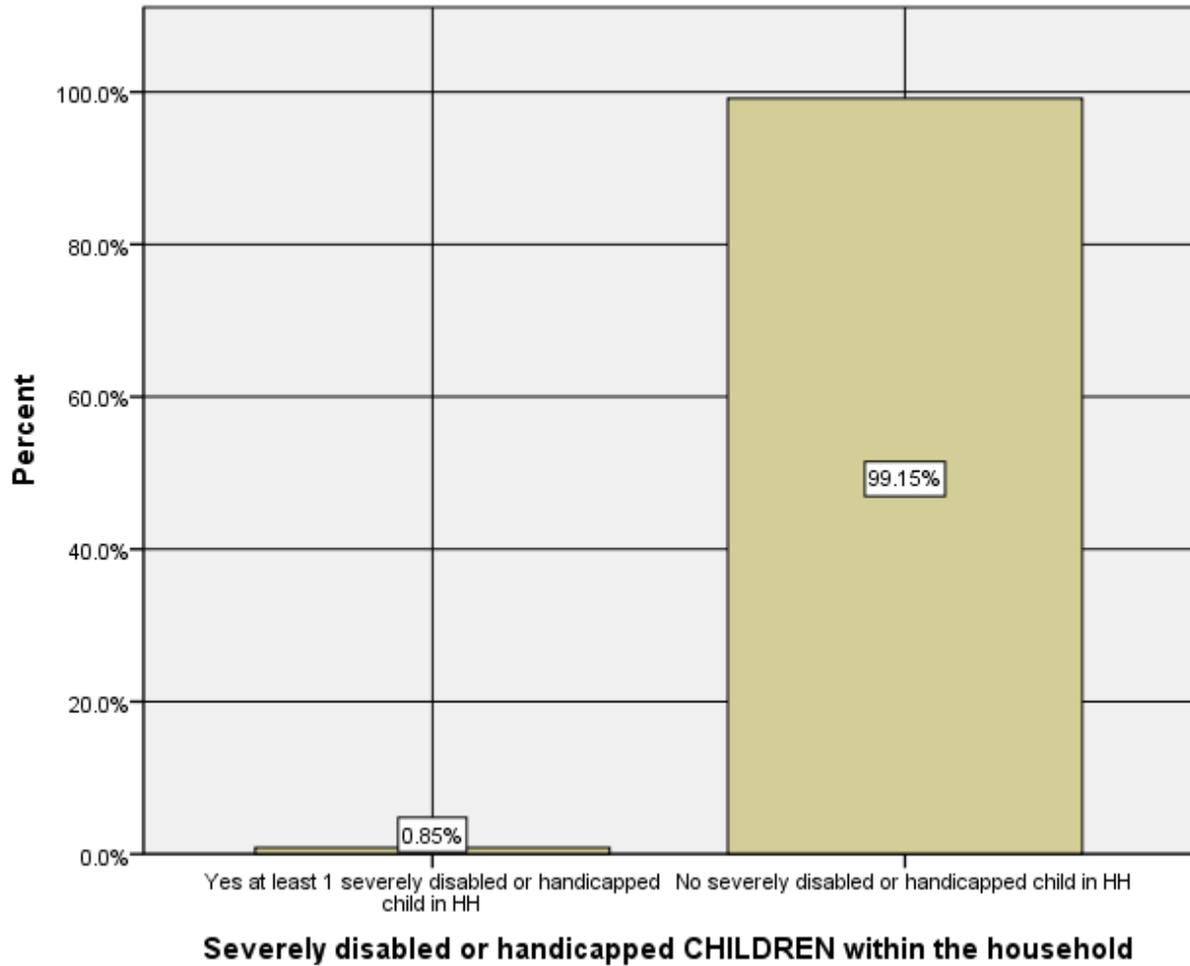
Households were asked whether or not they have at least one adult member who is 18 years or older and has a cognitive disability. Approximately 2 percent of households report at least one adult member who is 18 years or older and has a cognitive disability, while nearly 98 percent report no such household member.



**Households with at least one adult with a cognitive disability.**

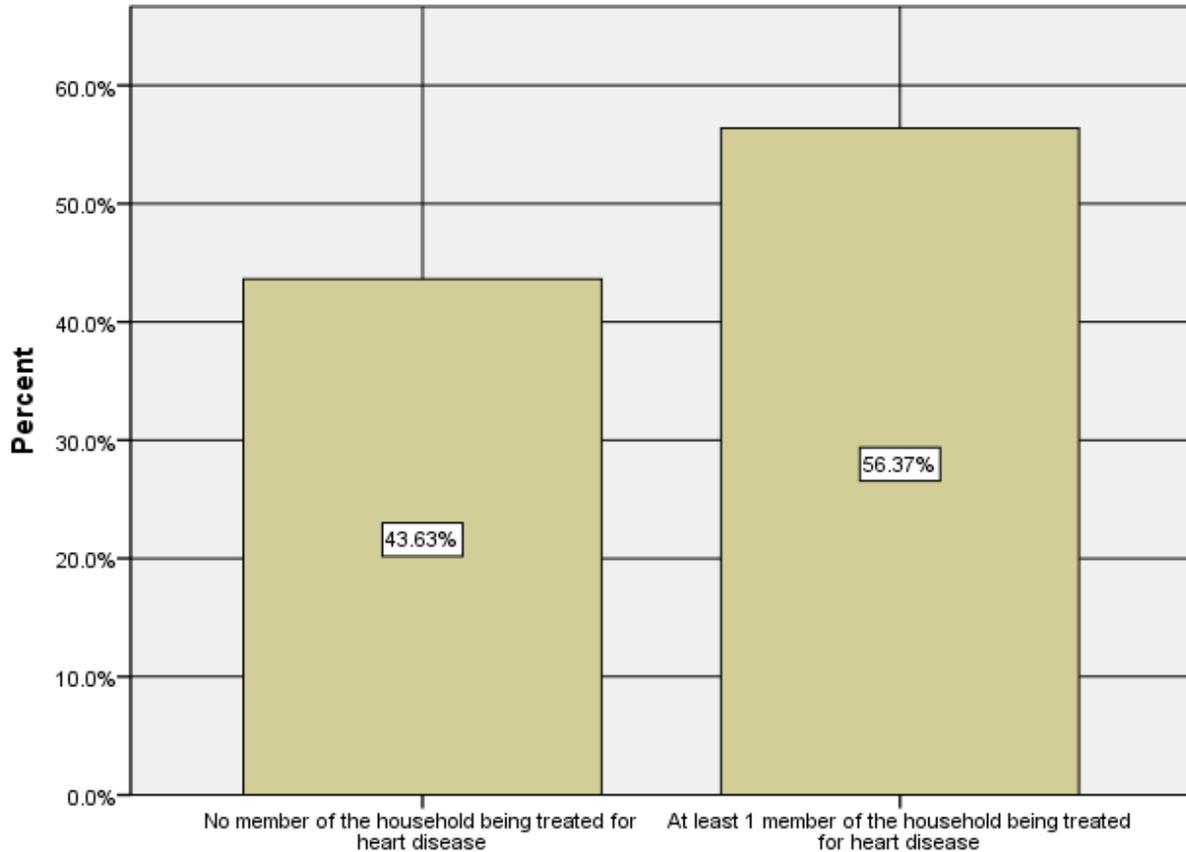
### Disabled Child in Household

Households were asked whether or not they have at least one severely disabled or handicapped child. Approximately 1 percent of households report at least one severely disabled or handicapped child, while about 99 percent report no such household member.



### Heart Disease, Hypertension, or High Blood Pressure

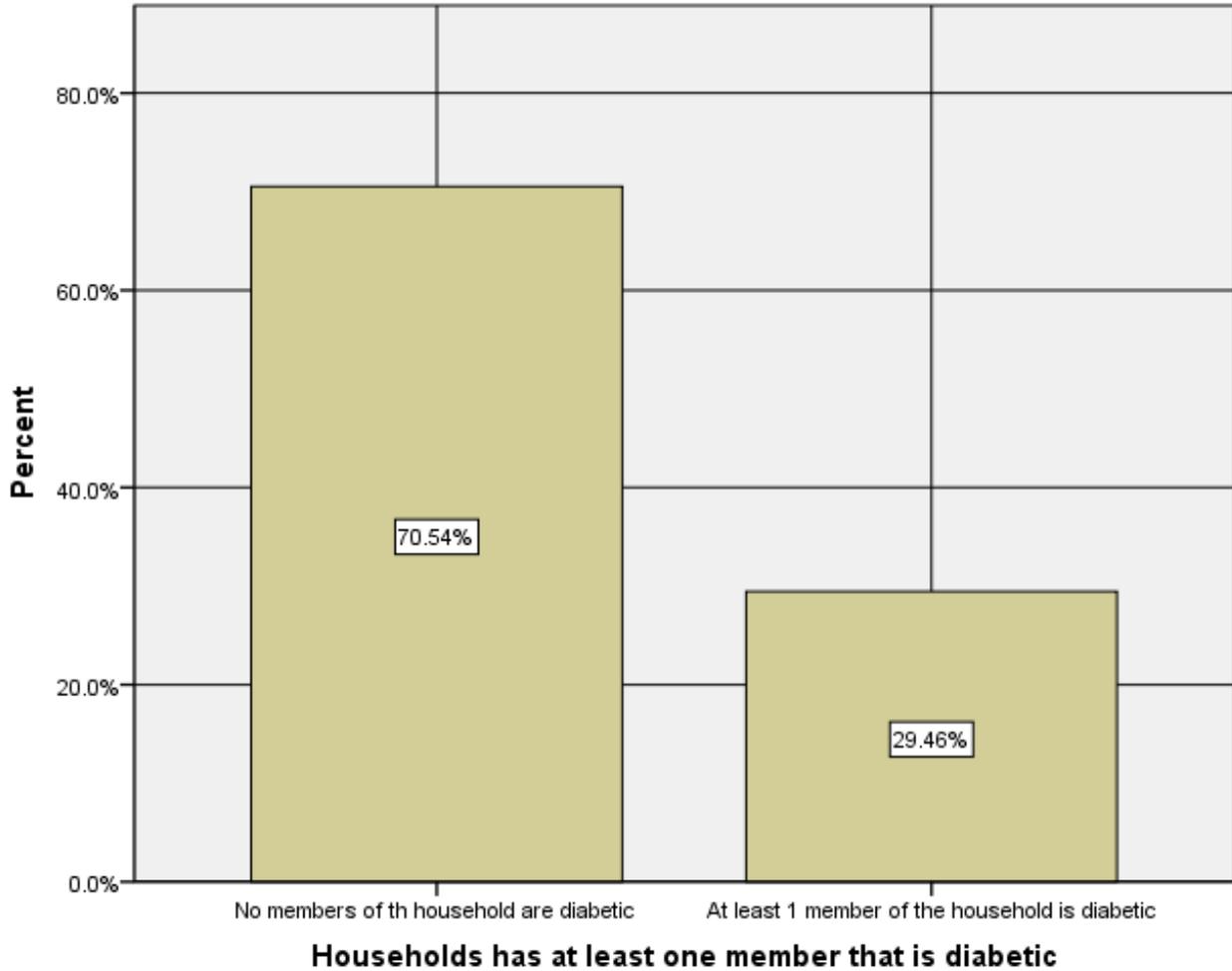
Households were asked whether or not they have at least one member who is being treated for heart disease, hypertension, or high blood pressure. Approximately 56 percent of households report at least member who is being treated for heart disease, hypertension, or high blood pressure, while about 44 percent report no such household member.



**Households has at least one member being treated for heart disease, hypertension, or high blood pressure.**

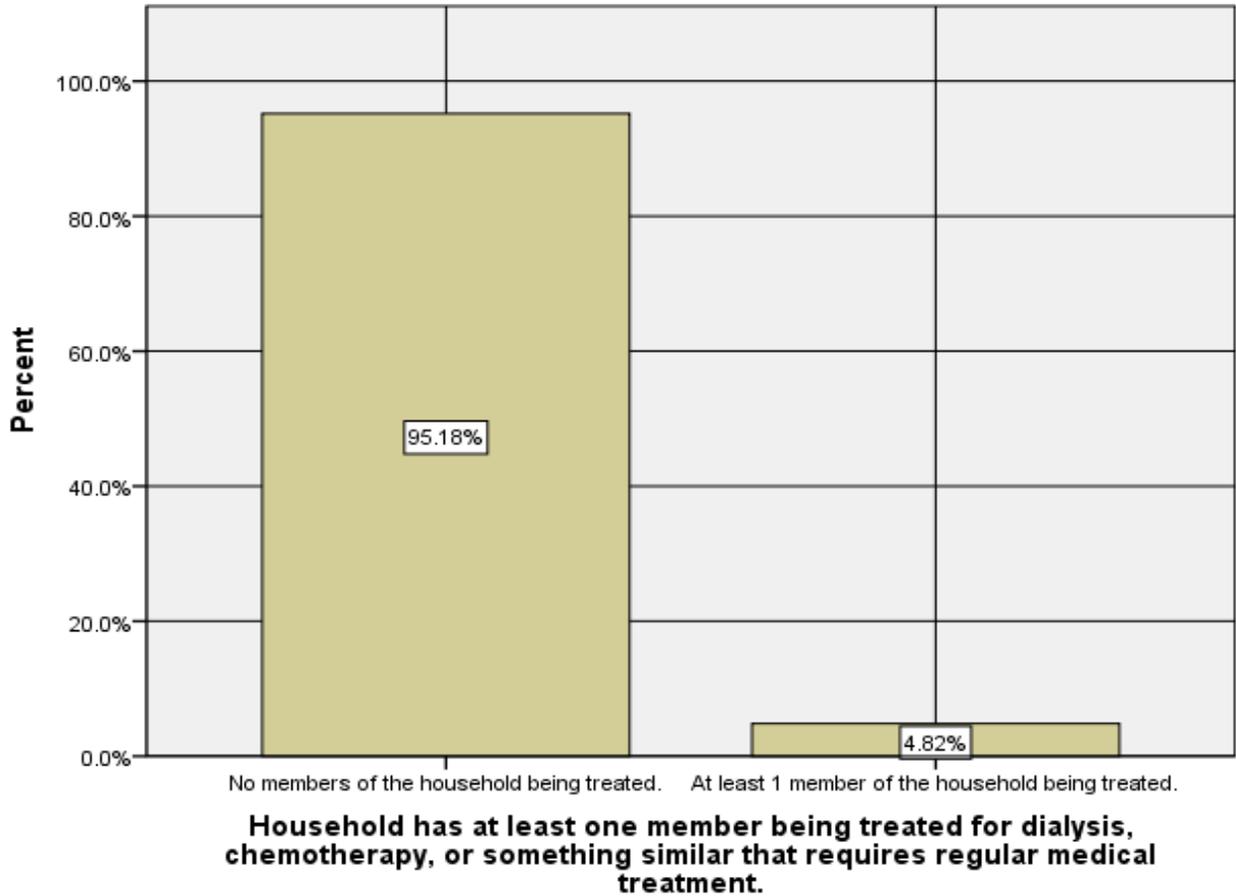
### Diabetic Household

Households were asked whether or not they have at least one member who is diabetic. Approximately 29 percent of households report at least member who is diabetic, while nearly 71 percent report no such household member.



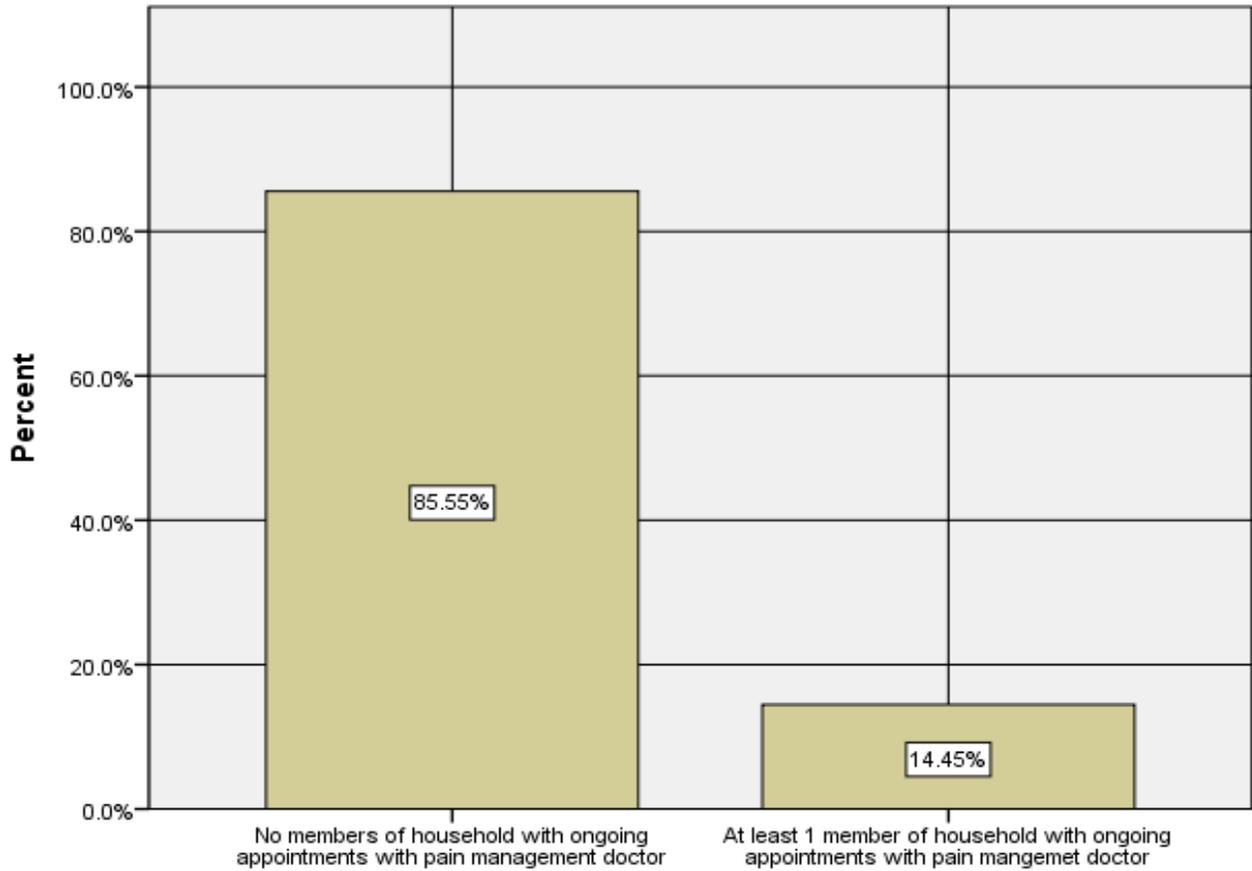
### Dialysis, Chemotherapy, or Similar

Households were asked whether or not they have at least one member who is being treated for dialysis, chemotherapy, or something similar that requires regular medical treatment. Approximately 5 percent of households report at least member who is being treated for dialysis, chemotherapy, or something similar that requires regular medical treatment, while about 95 percent report no such household member.



## Pain Management

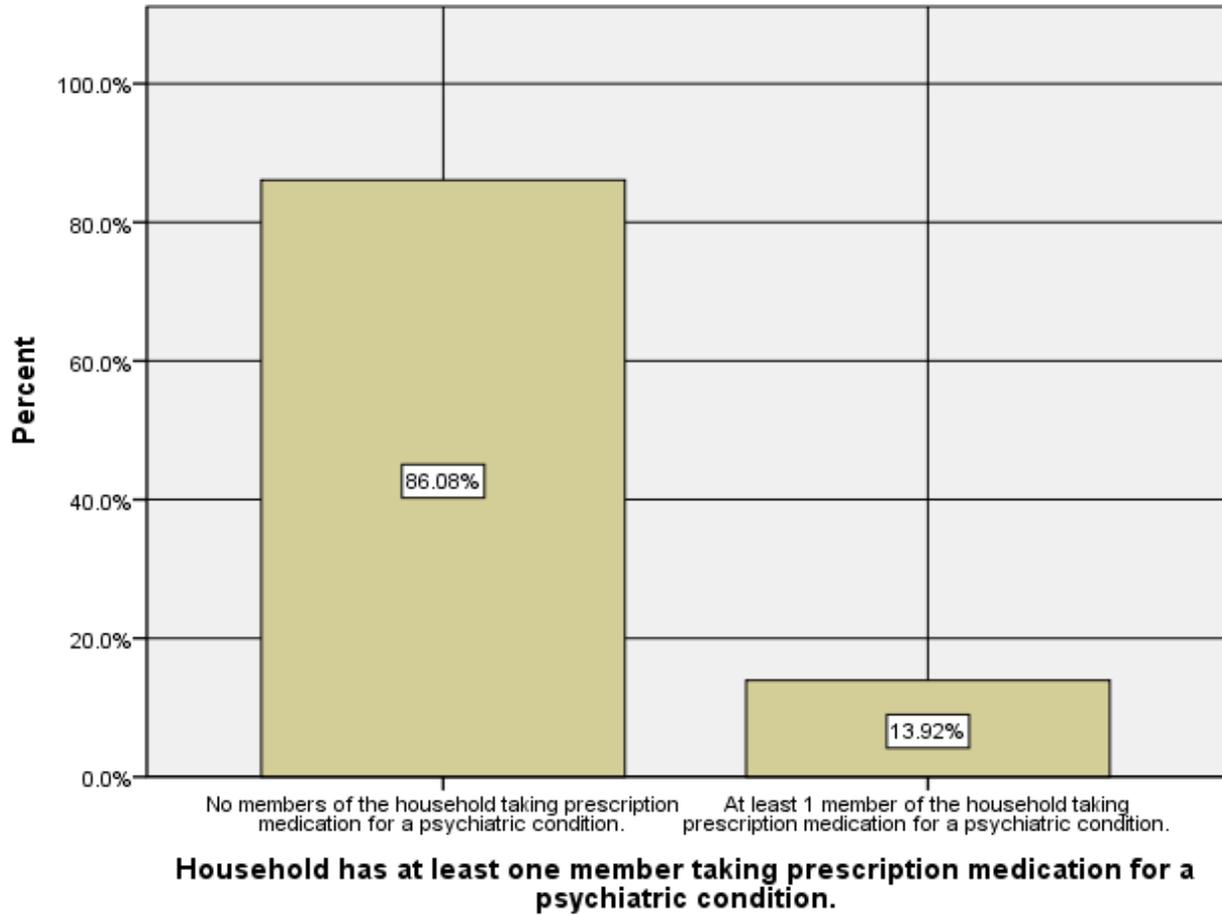
Households were asked whether or not they have at least one member who has ongoing appointments with a pain management doctor. Approximately 14 percent of households report at least member who has ongoing appointments with a pain management doctor, while about 86 percent report no such household member.



**Households has at least one member with ongoing appointments with pain management doctor.**

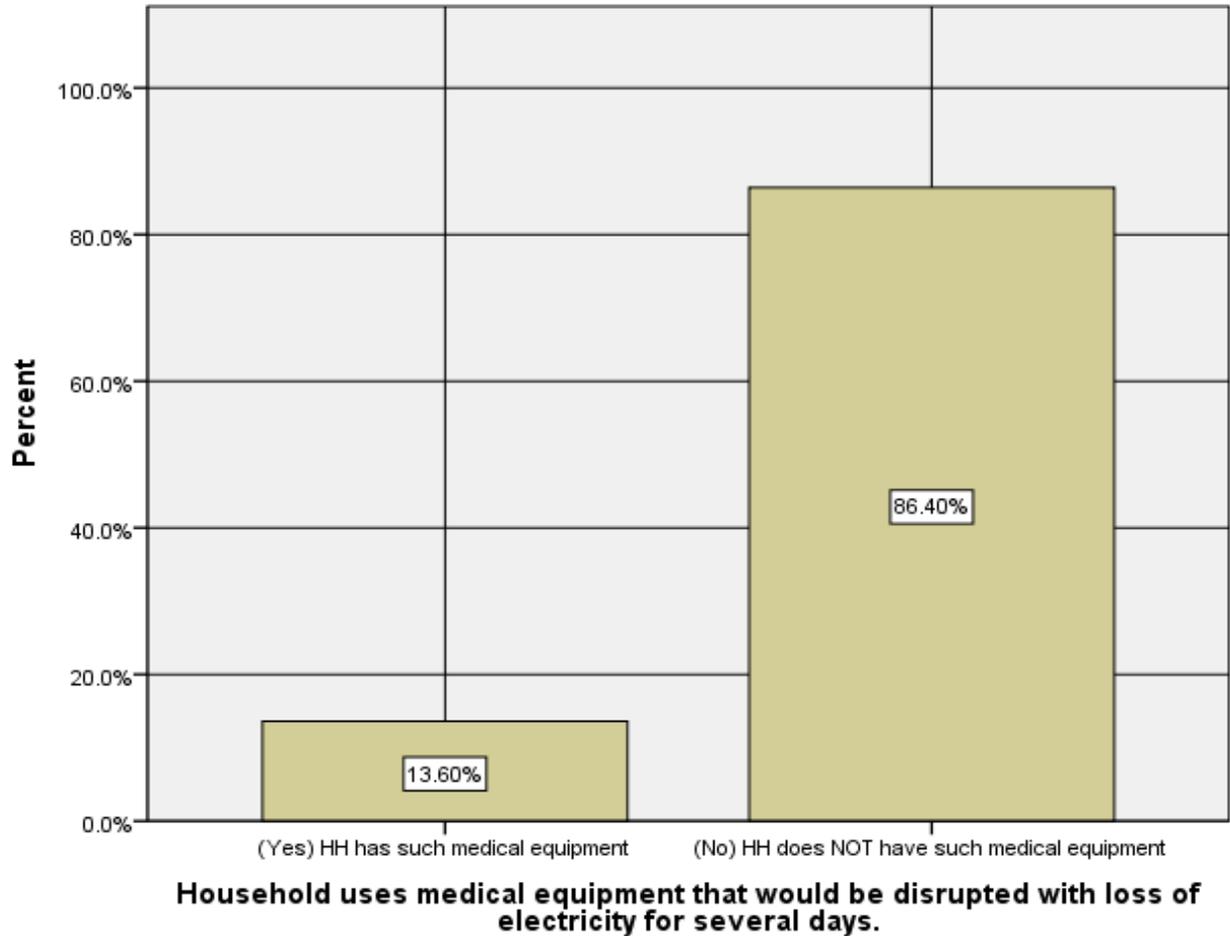
### Prescription Medication for Psychiatric Condition

Households were asked whether or not they have at least one member who is taking prescription medication for a psychiatric condition. Approximately 14 percent of households report at least member who is taking prescription medication for a psychiatric condition, while about 86 percent report no such household member.



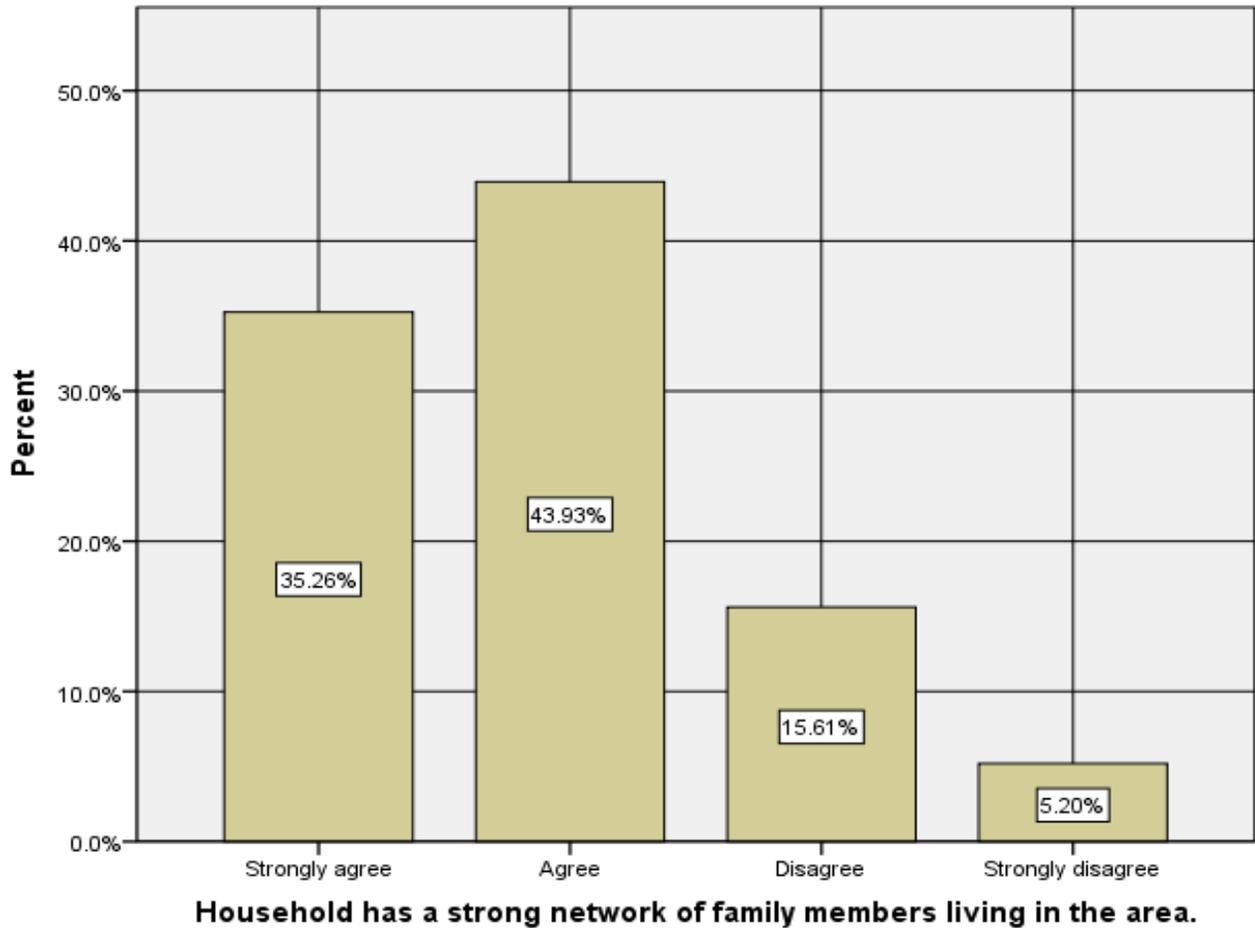
### Electric Medical Equipment in Home

Households were asked whether or not they use electronic medical equipment that would be disrupted with the loss of electricity for several days. Approximately 14 percent of households report that they use electronic medical equipment that would be disrupted with the loss of electricity for several days, while about 86 percent report no such use of electronic medical equipment.



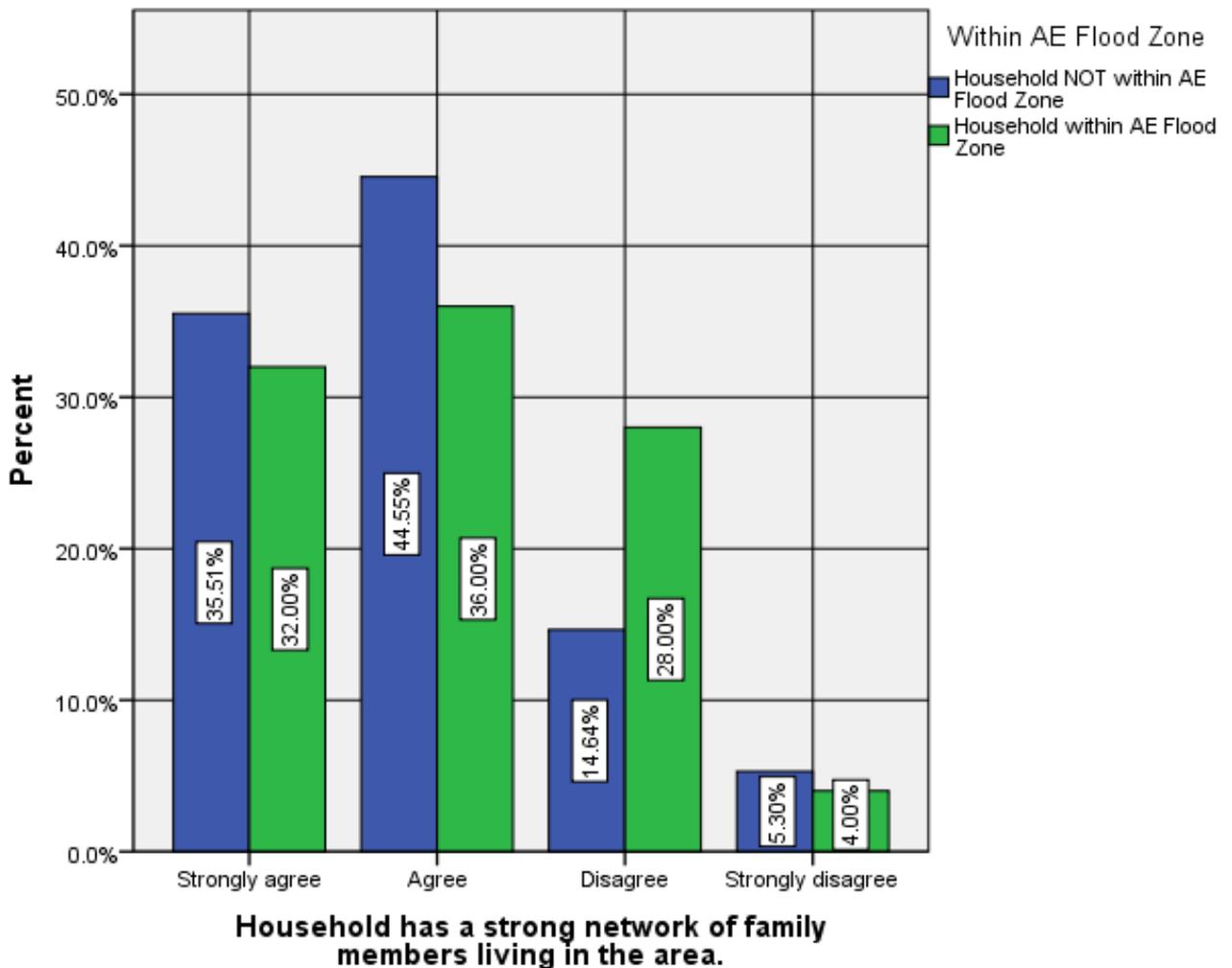
### Strong Family Network

Households were asked to report their level of agreement, on a scale of totally agree, agree, disagree, or totally disagree, that they “have a strong network of family members living in the area.” The following approximate percent of households report the following levels of agreement: 35 percent strongly agree, 44 percent agree, 16 percent disagree, and 5 percent strongly disagree with the statement.



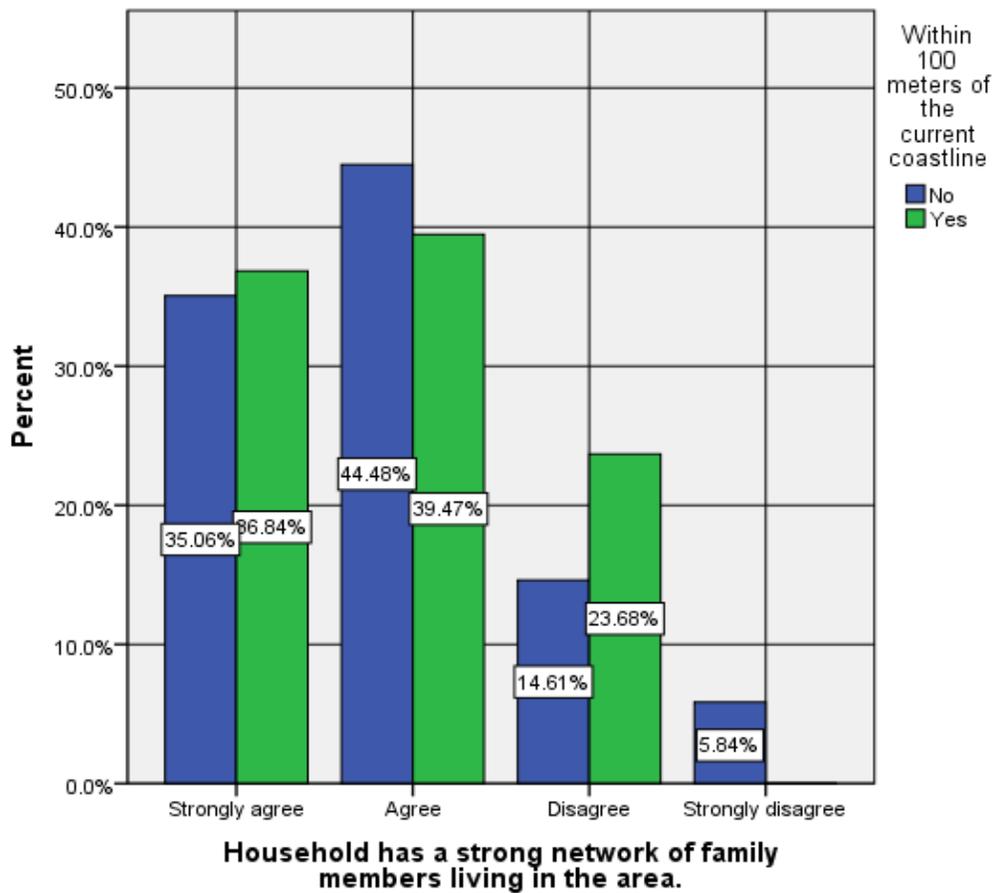
### Strong Family Network .. by .. AE Flood Zone

Households were asked to report their level of agreement, on a scale of totally agree, agree, disagree, or totally disagree, that they “have a strong network of family members living in the area.” These households are disaggregated by whether or not they are located within an AE flood zone. Within the AE Flood Zone the following approximate percent of households report the following levels of agreement: 32 percent strongly agree, 36 percent agree, 28 percent disagree, and 4 percent strongly disagree with the statement. Not within the AE Flood Zone the following approximate percent of households report the following levels of agreement: 35 percent strongly agree, 45 percent agree, 15 percent disagree, and 5 percent strongly disagree with the statement.



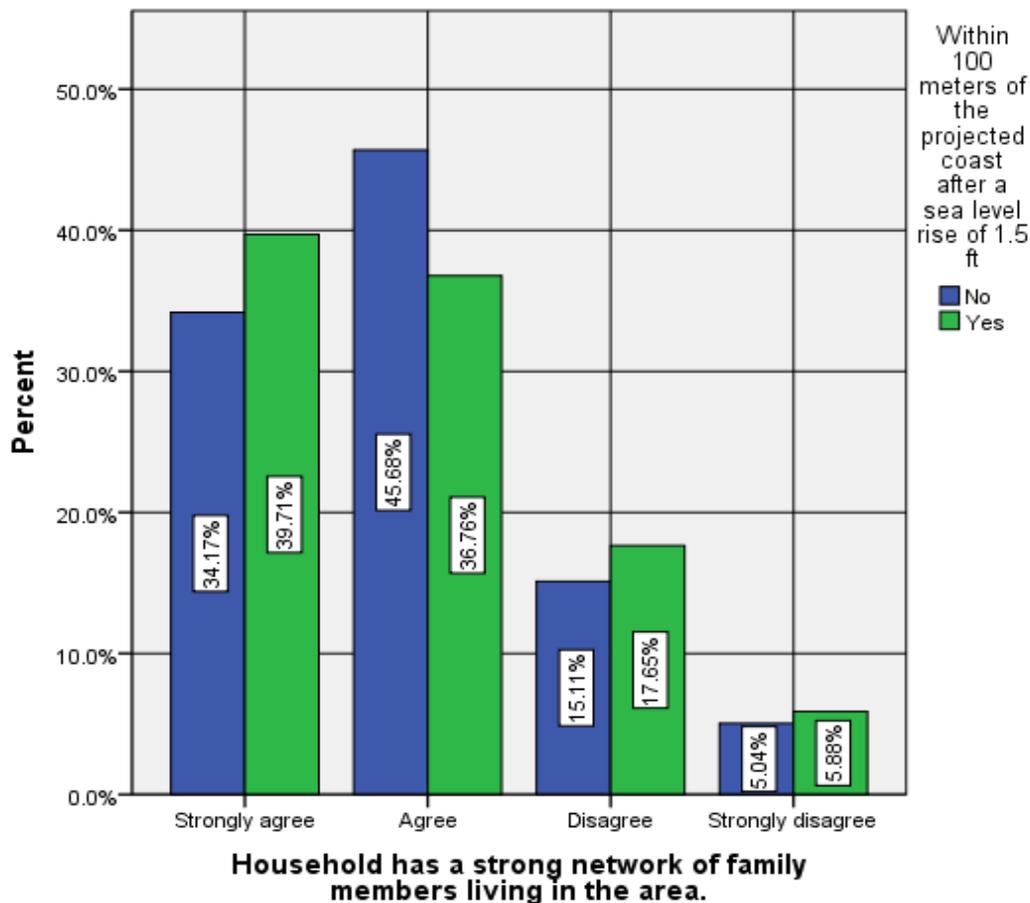
### Strong Family Network .. by .. Within 100 Meters of the Current Coastline

Households were asked to report their level of agreement, on a scale of totally agree, agree, disagree, or totally disagree, that they “have a strong network of family members living in the area.” These households are disaggregated based on whether or not they are located within 100 meters of the current coastline. Within 100 meters of the current coastline the following approximate percent of households report the following levels of agreement: 37 percent strongly agree, 39 percent agree, 24 percent disagree, and 0 percent strongly disagree with the statement. Not within 100 meters of the current coastline the following approximate percent of households report the following levels of agreement: 35 percent strongly agree, 44 percent agree, 15 percent disagree, and 6 percent strongly disagree with the statement. 36.8 percent relative 35.0 percent respectively



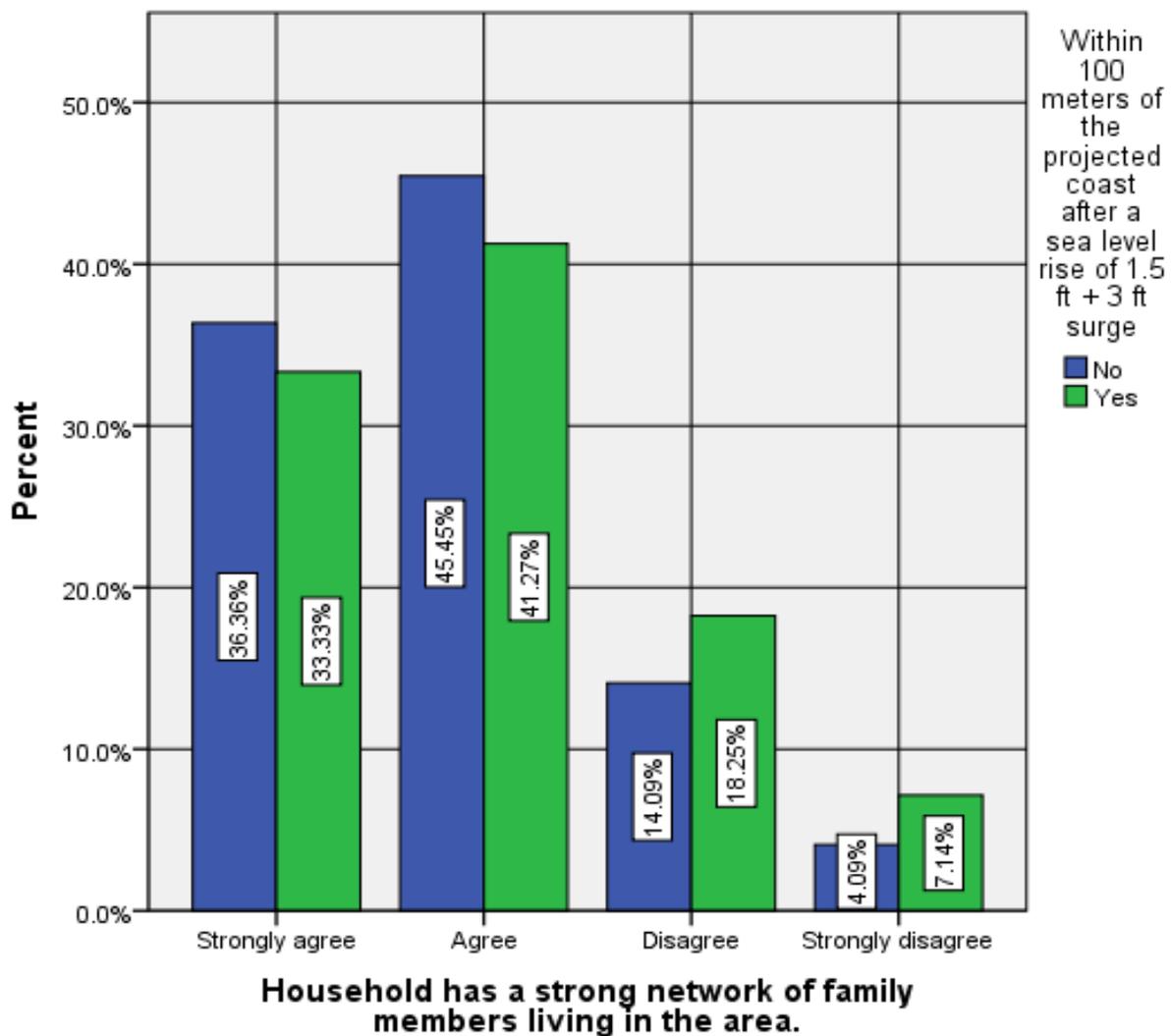
### Strong Family Network .. by .. Within 100 Meters of the Projected SLR Coastline

Households were asked to report their level of agreement, on a scale of totally agree, agree, disagree, or totally disagree, that they “have a strong network of family members living in the area.” These households are disaggregated based on whether or not they are located within 100 meters of the projected coastline after a sea level rise (SLR) of 1.5 feet. Within 100 meters of the projected SLR coastline the following approximate percent of households report the following levels of agreement: 40 percent strongly agree, 37 percent agree, 18 percent disagree, and 6 percent strongly disagree with the statement. Not within 100 meters of the projected SLR coastline the following approximate percent of households report the following levels of agreement: 34 percent strongly agree, 46 percent agree, 15 percent disagree, and 5 percent strongly disagree with the statement.



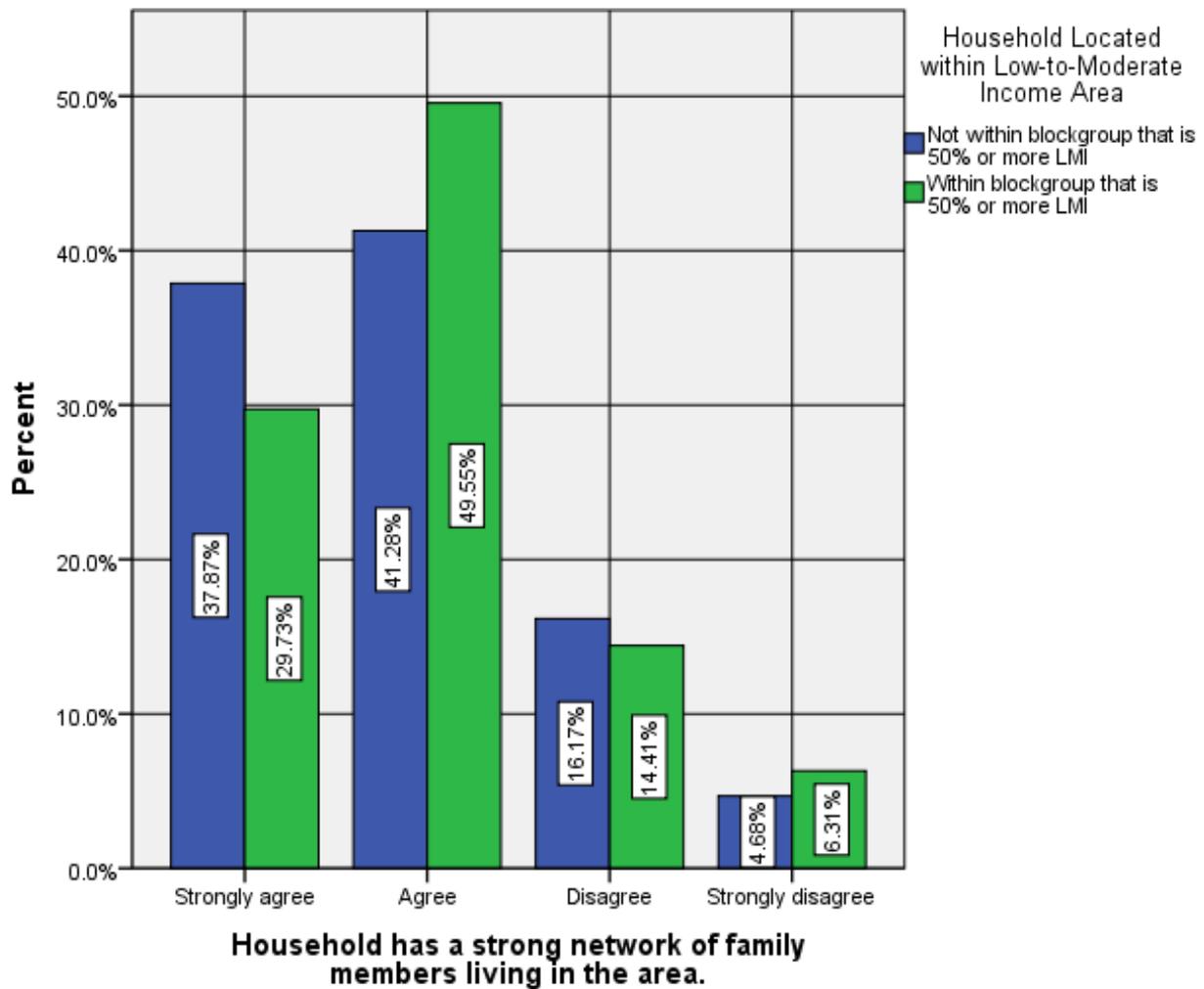
### Strong Family Network .. by.. Within 100 Meters of the Projects SLR+Surge Coastline

Households were asked to report their level of agreement, on a scale of totally agree, agree, disagree, or totally disagree, that they “have a strong network of family members living in the area.” These households are disaggregated based on whether or not they are located within 100 meters of the projected coastline after a sea level rise (SLR) of 1.5 feet and a storm surge of 3 feet. Within 100 meters of the projected SLR+Surge coastline the following approximate percent of households report the following levels of agreement: 33 percent strongly agree, 41 percent agree, 18 percent disagree, and 7 percent strongly disagree with the statement. Not within 100 meters of the projected SLR+Surge coastline the following approximate percent of households report the following levels of agreement: 36 percent strongly agree, 46 percent agree, 14 percent disagree, and 4 percent strongly disagree with the statement.



### Strong Family Network .. by .. LMI Area

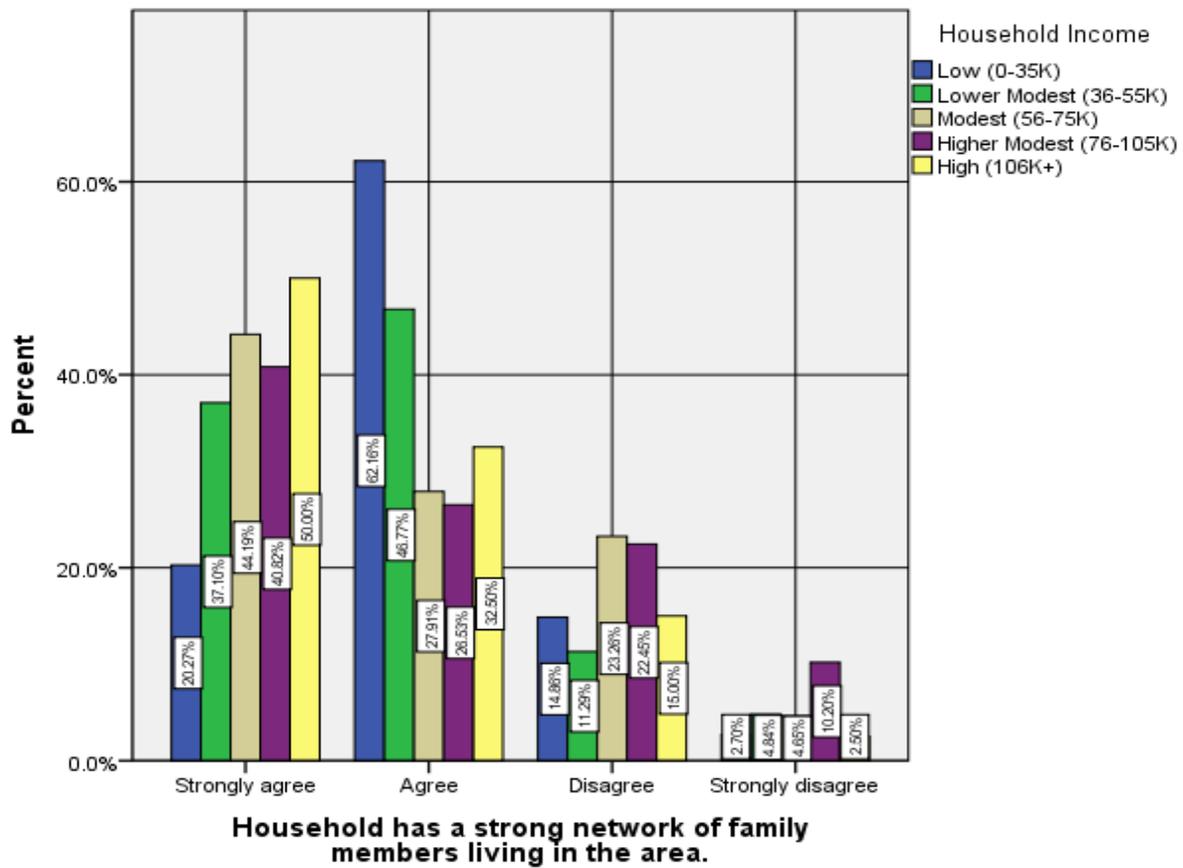
Households were asked to report their level of agreement, on a scale of totally agree, agree, disagree, or totally disagree, that they “have a strong network of family members living in the area.” These households are disaggregated by whether or not they are located within a low-to-moderate income block group. Within low-to-moderate income block groups the following approximate percent of households report the following levels of agreement: 30 percent strongly agree, 50 percent agree, 14 percent disagree, and 6 percent strongly disagree with the statement. Not within low-to-moderate income block groups the following approximate percent of households report the following levels of agreement: 38 percent strongly agree, 41 percent agree, 16 percent disagree, and 5 percent strongly disagree with the statement.



### Strong Family Network .. by .. Income

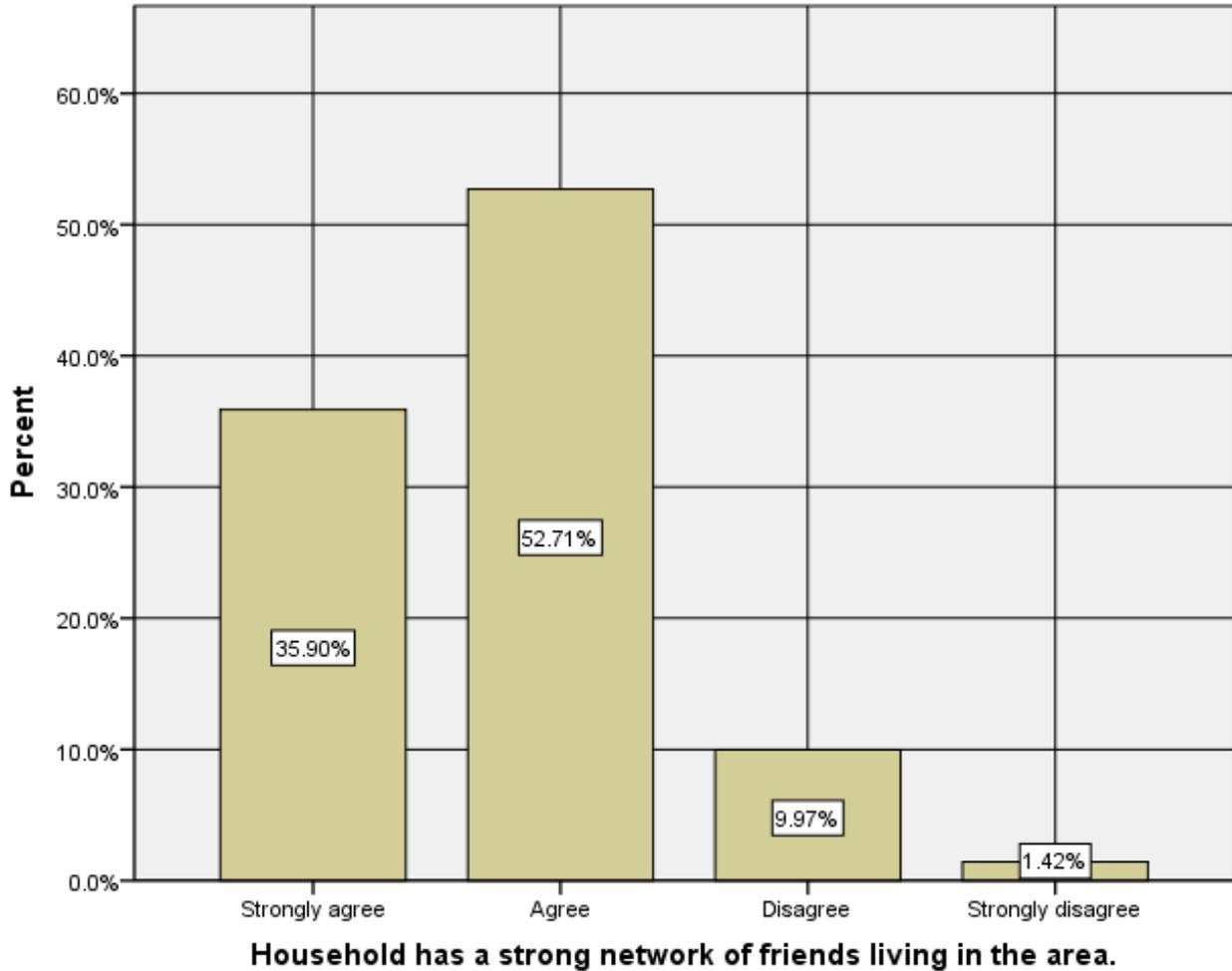
Households were asked to report their level of agreement, on a scale of totally agree, agree, disagree, or totally disagree, that they “have a strong network of family members living in the area.” These households are disaggregated by household annual income. The chart illustrates that, in general, Lower and Lower Modest income households are less likely to strongly agree that they have strong networks. The following approximate percent of households report the following level of agreement with the statement:

- Low: 20 percent strongly agree, 62 percent agree, 15 percent disagree, and 3 percent strongly disagree.
- Lower Modest: 37 percent strongly agree, 47 percent agree, 11 percent disagree, and 5 percent strongly disagree.
- Modest: 44 percent strongly agree, 28 percent agree, 23 percent disagree, and 5 percent strongly disagree.
- Higher Modest: 40 percent strongly agree, 27 percent agree, 22 percent disagree, and 10 percent strongly disagree.
- High: 50 percent strongly agree, 33 percent agree, 15 percent disagree, and more than 2 percent strongly disagree.



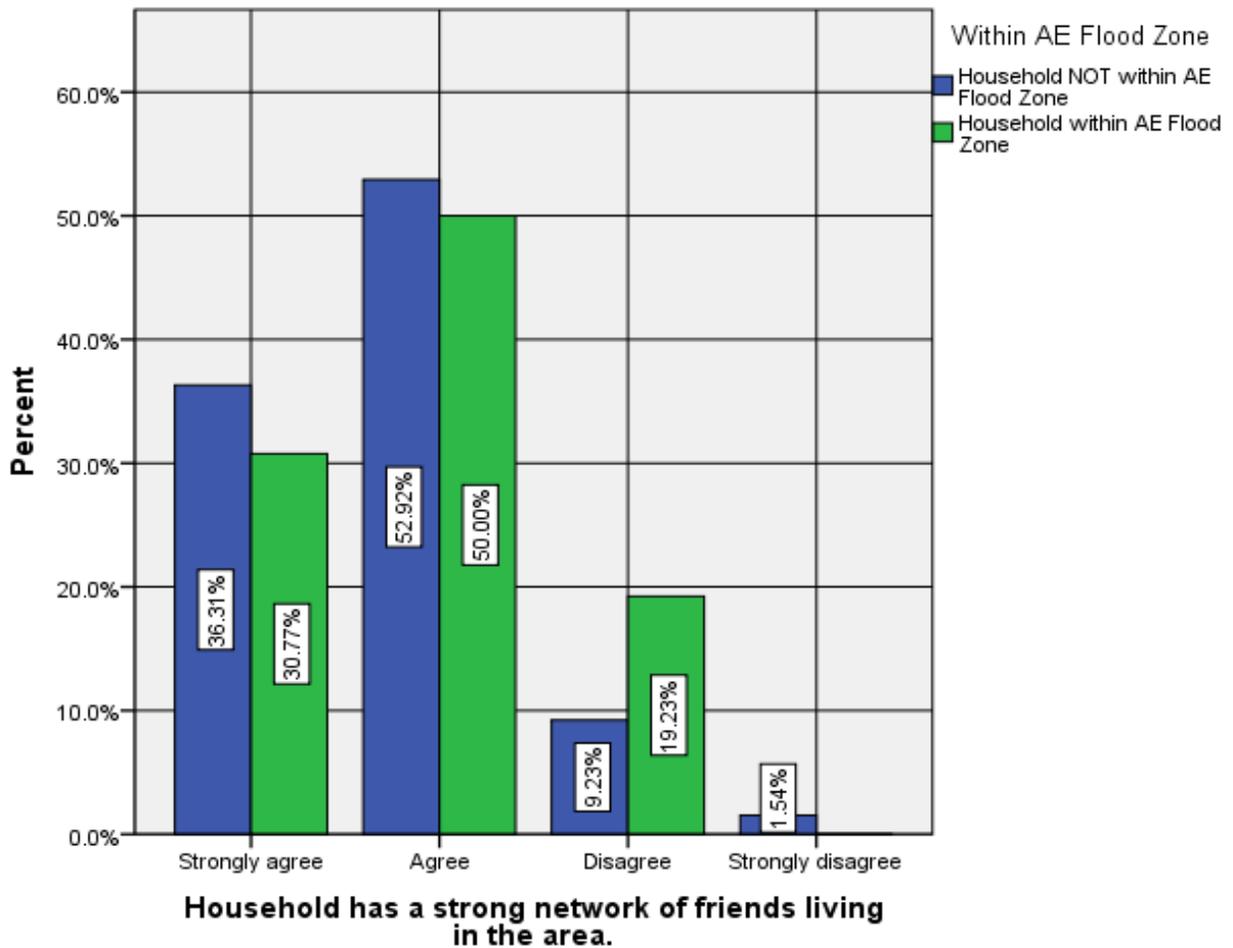
## Strong Friend Network

Households were asked to report their level of agreement, on a scale of totally agree, agree, disagree, or totally disagree, that they “have a strong network of friends living in the area.” The following approximate percent of households report the following levels of agreement: 36 percent strongly agree, 53 percent agree, 10 percent disagree, and 1 percent strongly disagree with the statement.



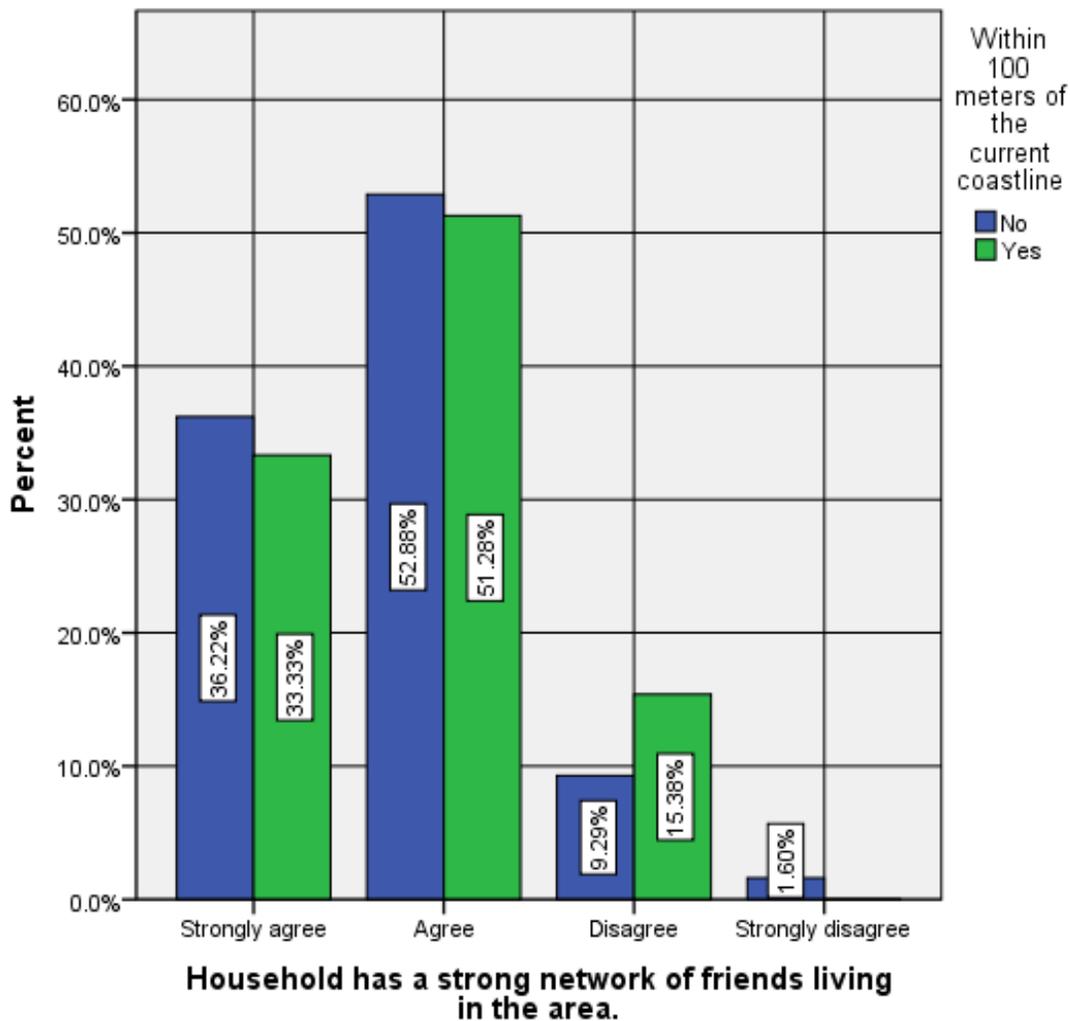
### Strong Friend Network .. by .. AE Flood Zone

Households were asked to report their level of agreement, on a scale of totally agree, agree, disagree, or totally disagree, that they “have a strong network of friends living in the area.” These households are disaggregated by whether or not they are located within an AE flood zone. Within the AE Flood Zone the following approximate percent of households report the following levels of agreement: 31 percent strongly agree, 50 percent agree, 19 percent disagree, and 0 percent strongly disagree with the statement. Not within the AE Flood Zone the following approximate percent of households report the following levels of agreement: 36 percent strongly agree, 53 percent agree, 9 percent disagree, and 2 percent strongly disagree with the statement.



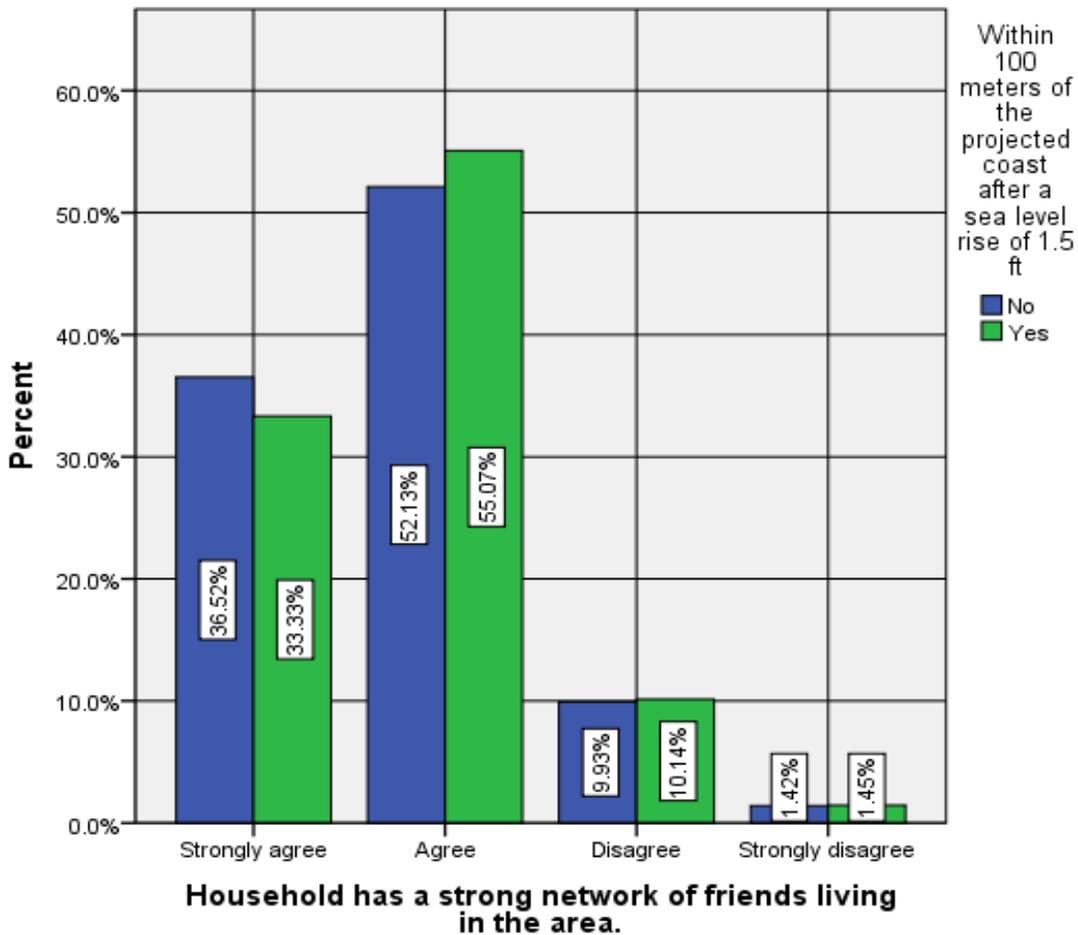
### Strong Friend Network .. by .. Within 100 Meters of the Current Coastline

Households were asked to report their level of agreement, on a scale of totally agree, agree, disagree, or totally disagree, that they “have a strong network of friends living in the area.” These households are disaggregated based on whether or not they are located within 100 meters of the current coastline. Within 100 meters of the current coastline the following approximate percent of households report the following levels of agreement: 33 percent strongly agree, 51 percent agree, 16 percent disagree, and 0 percent strongly disagree with the statement. Not within 100 meters of the current coastline the following approximate percent of households report the following levels of agreement: 36 percent strongly agree, 53 percent agree, 9 percent disagree, and 1 percent strongly disagree with the statement.



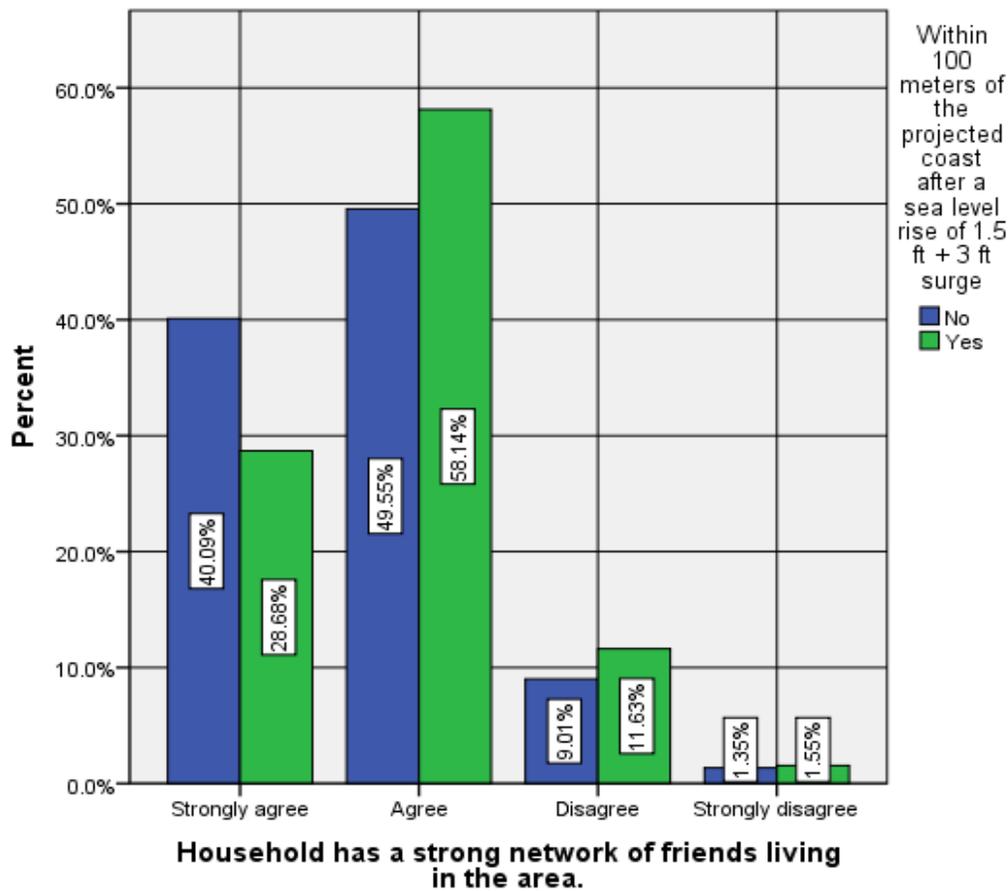
### Strong Friend Network .. by .. Within 100 Meters of the Projected SLR Coastline

Households were asked to report their level of agreement, on a scale of totally agree, agree, disagree, or totally disagree, that they “have a strong network of friends living in the area.” These households are disaggregated based on whether or not they are located within 100 meters of the projected coastline after a sea level rise (SLR) of 1.5 feet. Within 100 meters of the projected SLR coastline the following approximate percent of households report the following levels of agreement: 33 percent strongly agree, 55 percent agree, 10 percent disagree, and 2 percent strongly disagree with the statement. Not within 100 meters of the projected SLR coastline the following approximate percent of households report the following levels of agreement: 37 percent strongly agree, 52 percent agree, 10 percent disagree, and 1 percent strongly disagree with the statement.



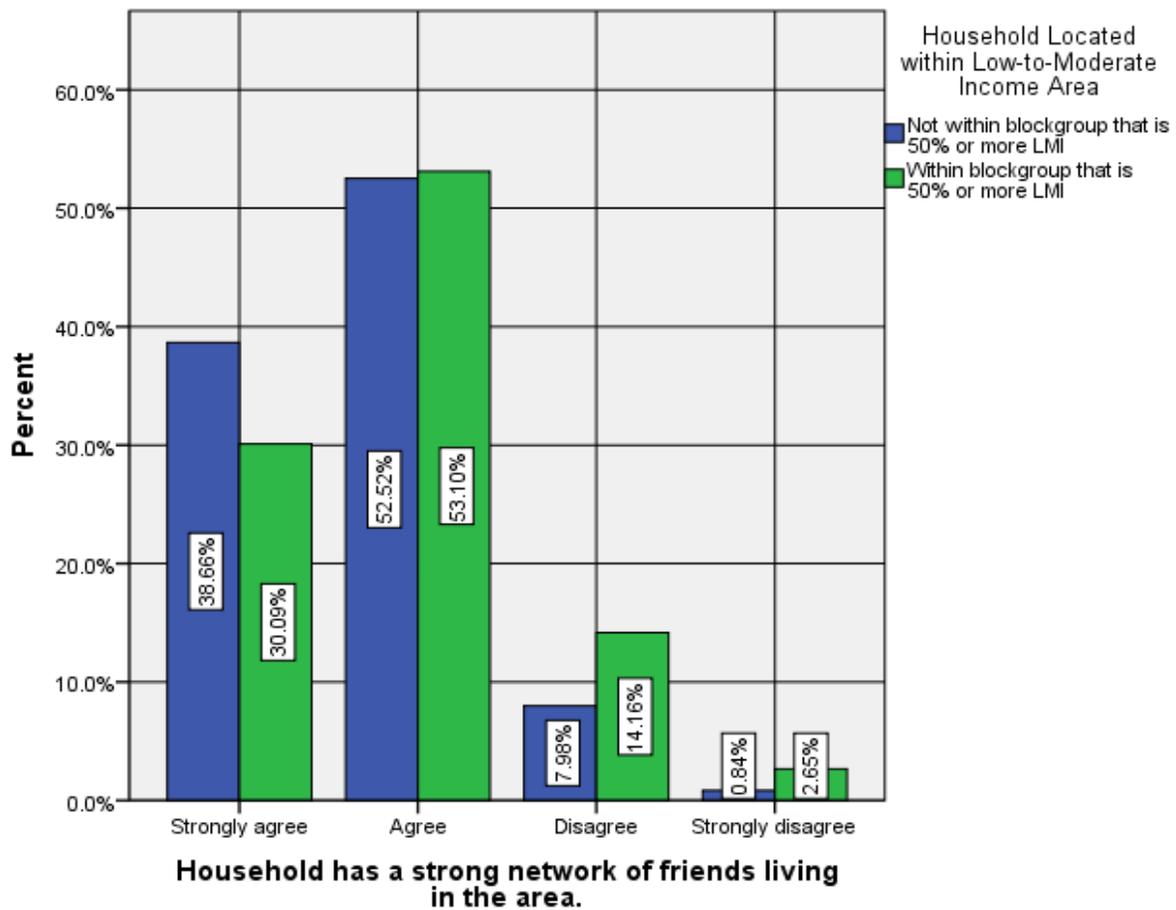
### Strong Friend Network .. by.. Within 100 Meters of the Projects SLR+Surge Coastline

Households were asked to report their level of agreement, on a scale of totally agree, agree, disagree, or totally disagree, that they “have a strong network of family members living in the area.” These households are disaggregated based on whether or not they are located within 100 meters of the projected coastline after a sea level rise (SLR) of 1.5 feet and a storm surge of 3 feet. Within 100 meters of the projected SLR+Surge coastline the following approximate percent of households report the following levels of agreement: 29 percent strongly agree, 58 percent agree, 12 percent disagree, and 1 percent strongly disagree with the statement. Not within 100 meters of the projected SLR+Surge coastline the following approximate percent of households report the following levels of agreement: 40 percent strongly agree, 49 percent agree, 9 percent disagree, and 1 percent strongly disagree with the statement.



### Strong Friend Network .. by .. LMI Area

Households were asked to report their level of agreement, on a scale of totally agree, agree, disagree, or totally disagree, that they “have a strong network of friends living in the area.” These households are disaggregated by whether or not they are located within a low-to-moderate income block group. Within low-to-moderate income block groups the following approximate percent of households report the following levels of agreement: 30 percent strongly agree, 53 percent agree, 14 percent disagree, and 3 percent strongly disagree with the statement. Not within low-to-moderate income block groups the following approximate percent of households report the following levels of agreement: 39 percent strongly agree, 53 percent agree, 8 percent disagree, and less than 1 percent strongly disagree with the statement.

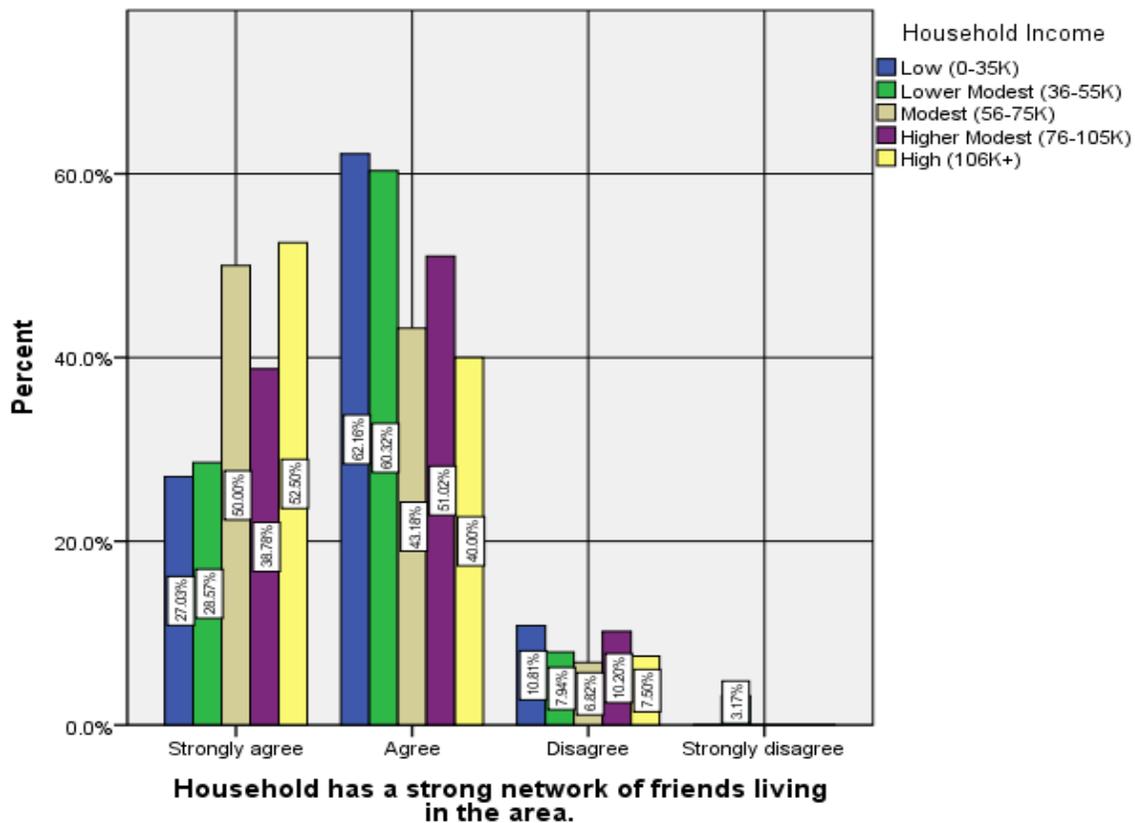


### Strong Friend Network .. by .. Income

Households were asked to report their level of agreement, on a scale of totally agree, agree, disagree, or totally disagree, that they “have a strong network of friends living in the area.” These households are disaggregated by household annual income.

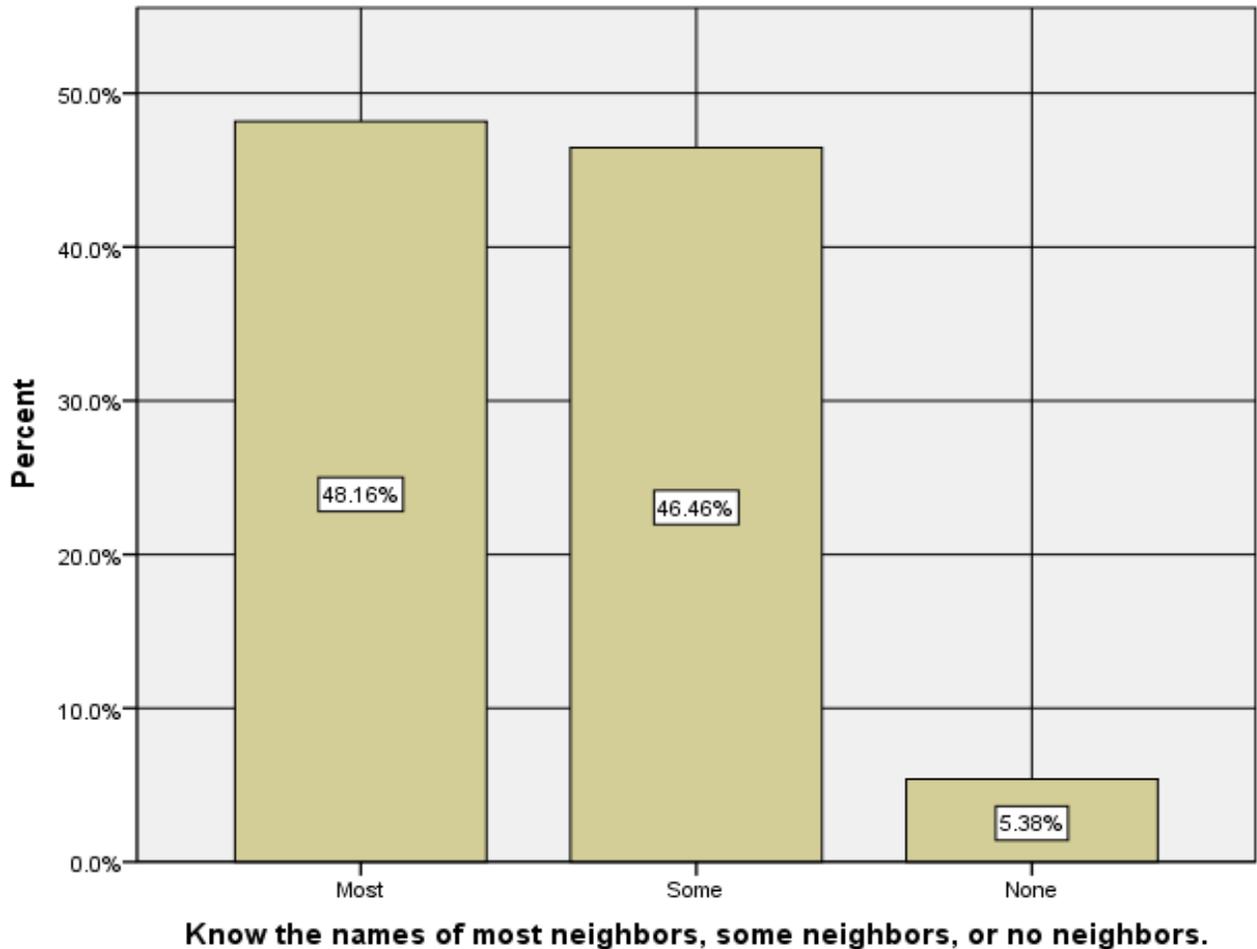
The following approximate percent of households report the following level of agreement with the statement:

- Low: 27 percent strongly agree, 62 percent agree, 11 percent disagree, and 0 percent strongly disagree.
- Lower Modest: 29 percent strongly agree, 60 percent agree, 8 percent disagree, and 3 percent strongly disagree.
- Modest: 50 percent strongly agree, 43 percent agree, 7 percent disagree, and 0 percent strongly disagree.
- Higher Modest: 38 percent strongly agree, 51 percent agree, 10 percent disagree, and 0 percent strongly disagree.
- High: 53 percent strongly agree, 40 percent agree, 7 percent disagree, and 0 percent strongly disagree.



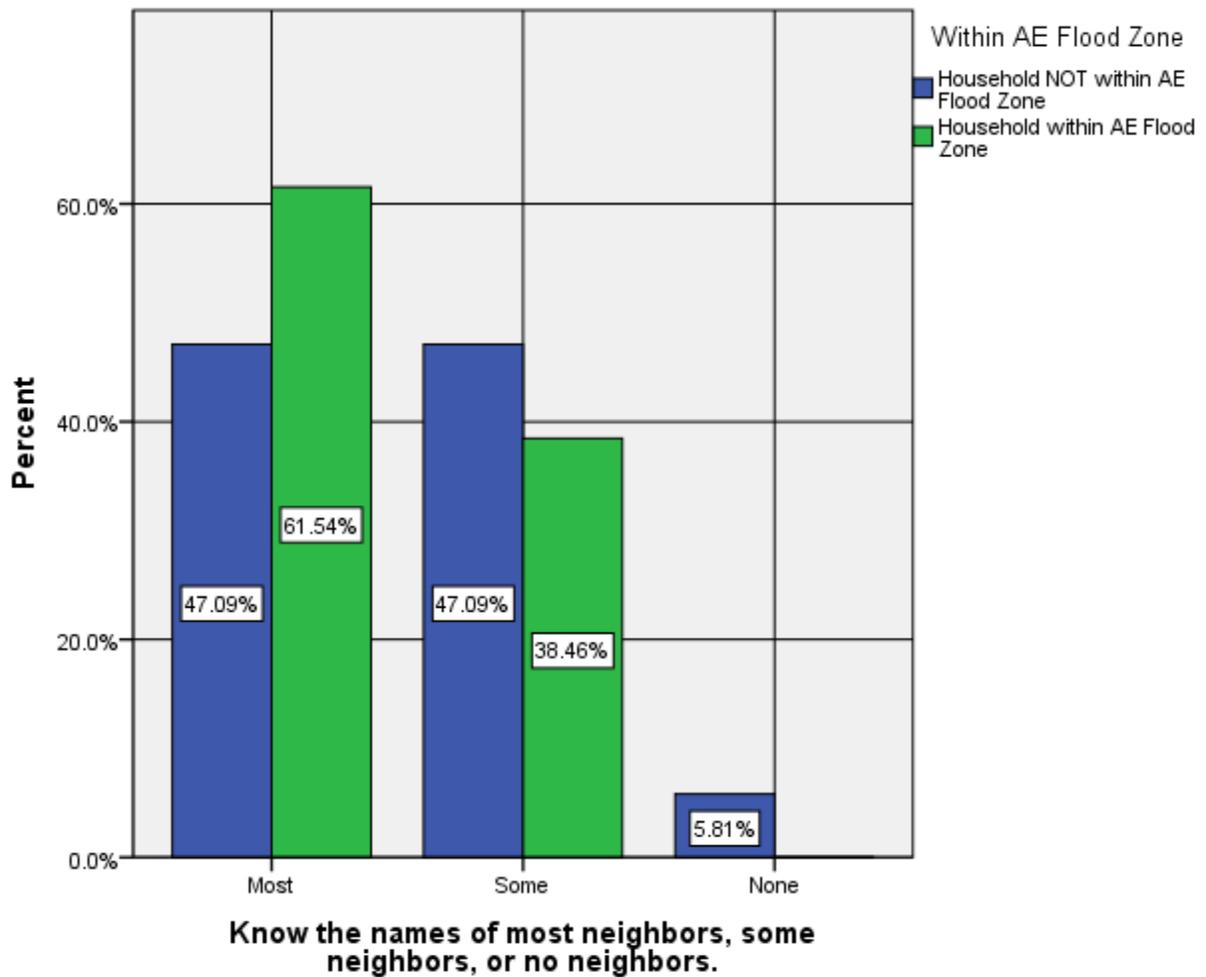
## Know Neighbors

Households were asked to report whether or not they know the name(s) of most, some, or none of their neighbors. The following approximate percent of households reported the following knowledge: 48 percent know most, 47 percent know some, and 5 percent know none of the names of their neighbors.



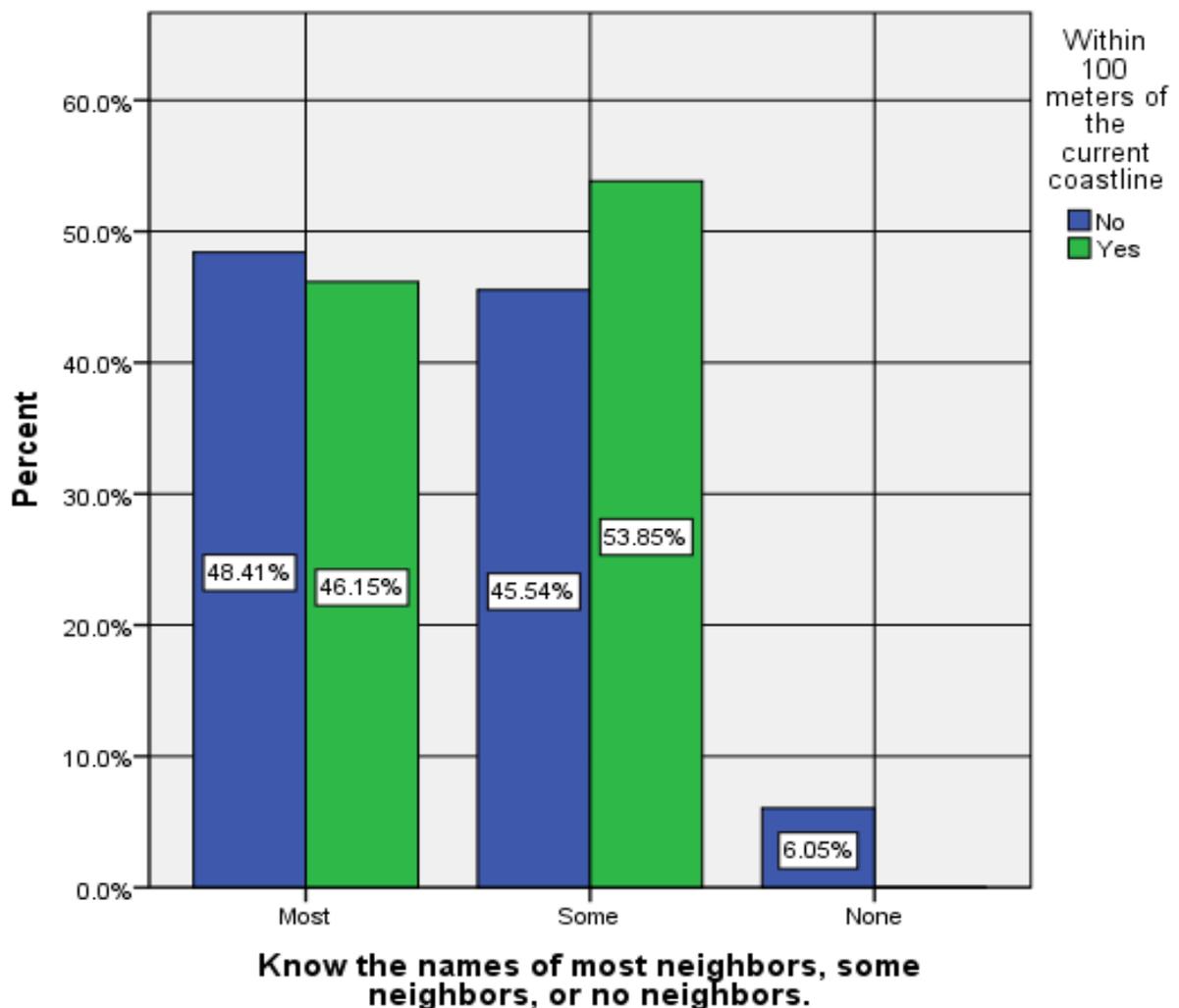
### Know Neighbors .. by .. AE Flood Zone

Households were asked to report whether or not they know the name(s) of most, some, or none of their neighbors. These households are disaggregated by whether or not they are located within an AE flood zone. Within the AE Flood Zone the following approximate percent of households reported the following knowledge: 62 percent know most, 38 percent know some, and 0 percent know none of the names of their neighbors. Not within the AE Flood Zone the following approximate percent of households reported the following knowledge: 47 percent know most, 47 percent know some, and 6 percent know none of the names of their neighbors.



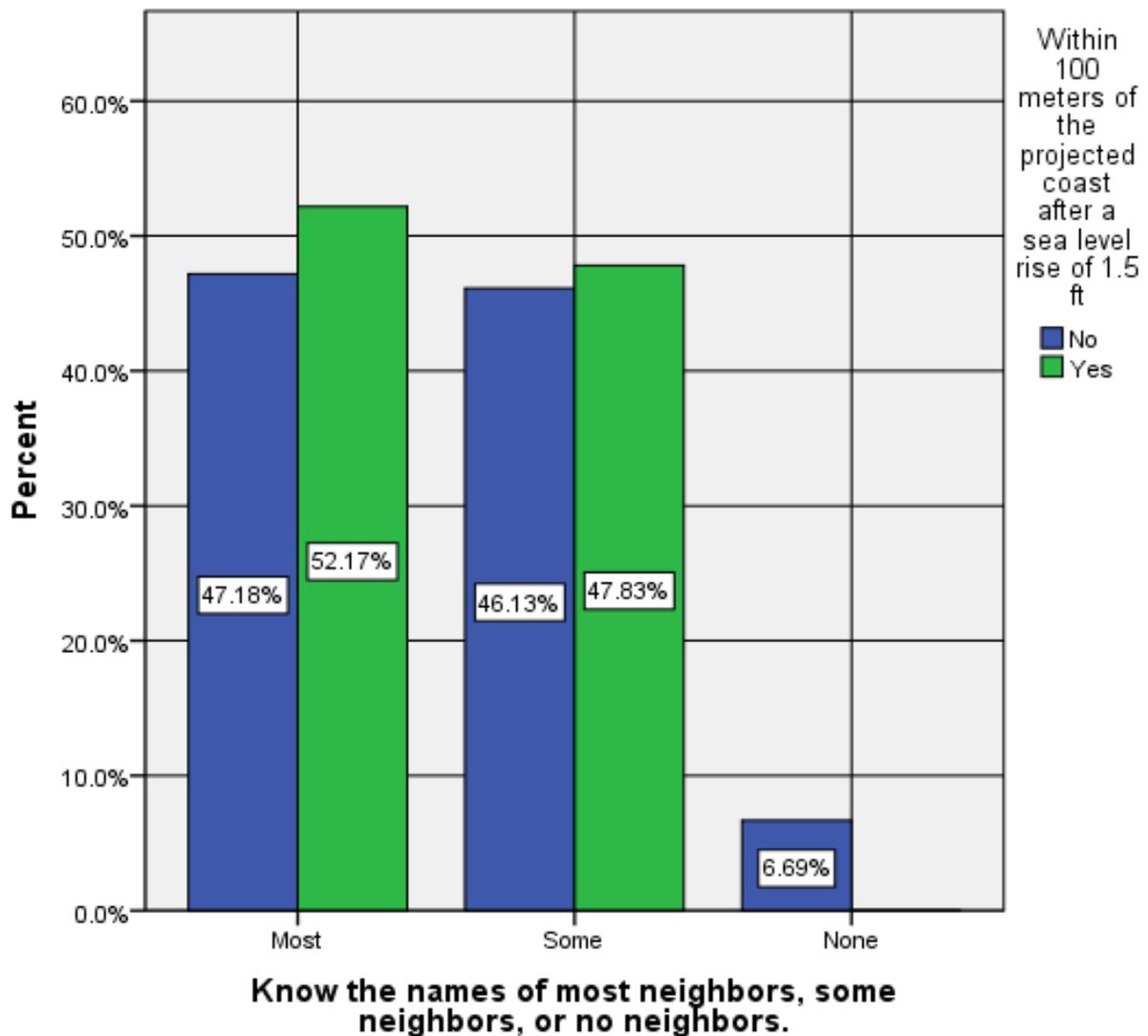
### Know Neighbors .. by .. Within 100 Meters of the Current Coastline

Households were asked to report whether or not they know the name(s) of most, some, or none of their neighbors. These households are disaggregated based on whether or not they are located within 100 meters of the current coastline. Within 100 meters of the current coastline the following approximate percent of households report the following knowledge: 46 percent know most, 54 percent know some, and 0 percent know none of the names of their neighbors. Not within 100 meters of the current coastline the following approximate percent of households report the following knowledge: 48 percent know most, 46 percent know some, and 6 percent know none of the names of their neighbors.



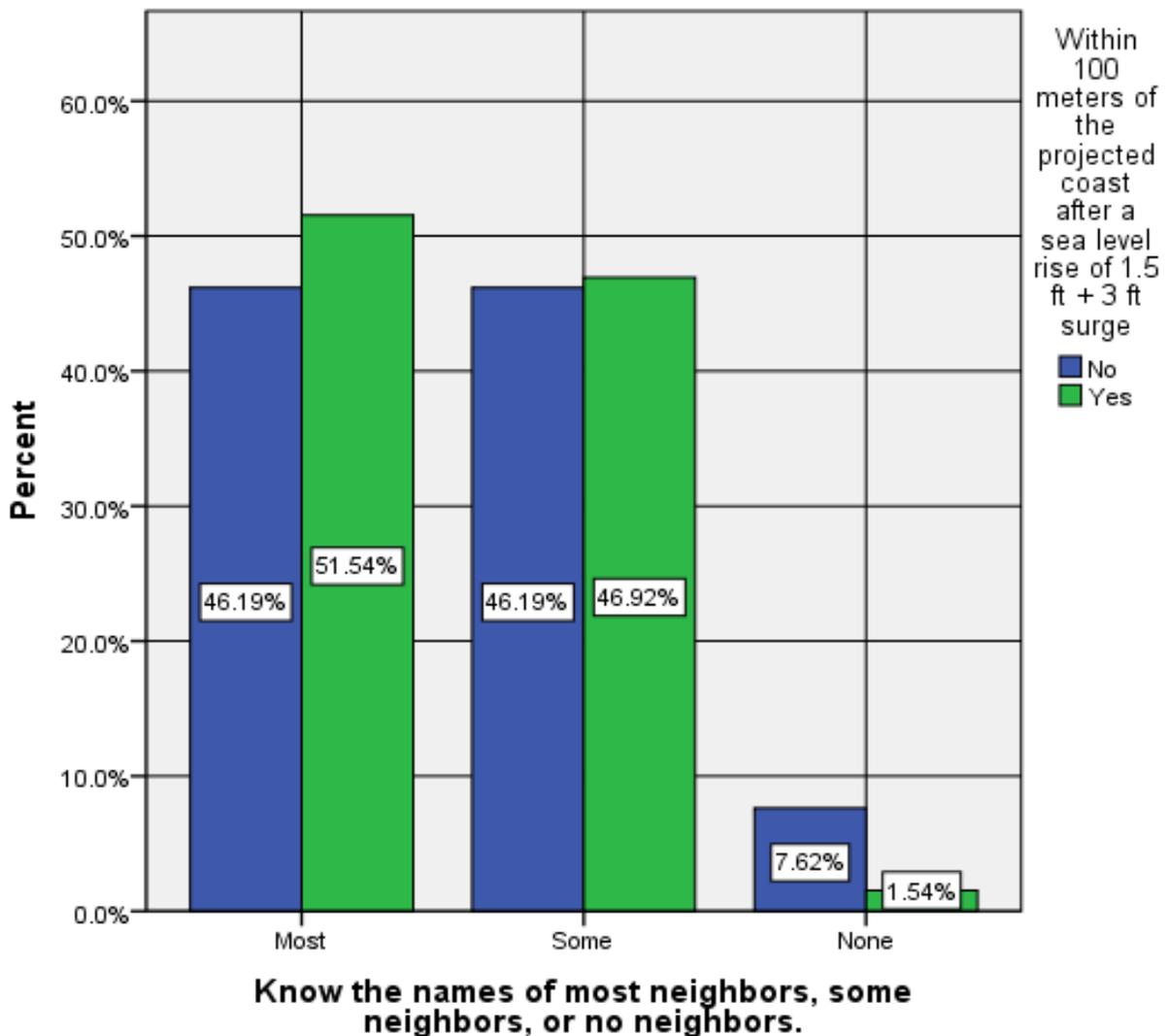
### Know Neighbors .. by .. Within 100 Meters of the Projected SLR Coastline

Households were asked to report whether or not they know the name(s) of most, some, or none of their neighbors. These households are disaggregated based on whether or not they are located within 100 meters of the projected coastline after a sea level rise (SLR) of 1.5 feet. Within 100 meters of the projected SLR coastline the following approximate percent of households report the following knowledge: 52 percent know most, 48 percent know some, and 0 percent know none of the names of their neighbors. Not within 100 meters of the projected SLR coastline the following approximate percent of households report the following knowledge: 47 percent know most, 46 percent know some, and 7 percent know none of the names of their neighbors.



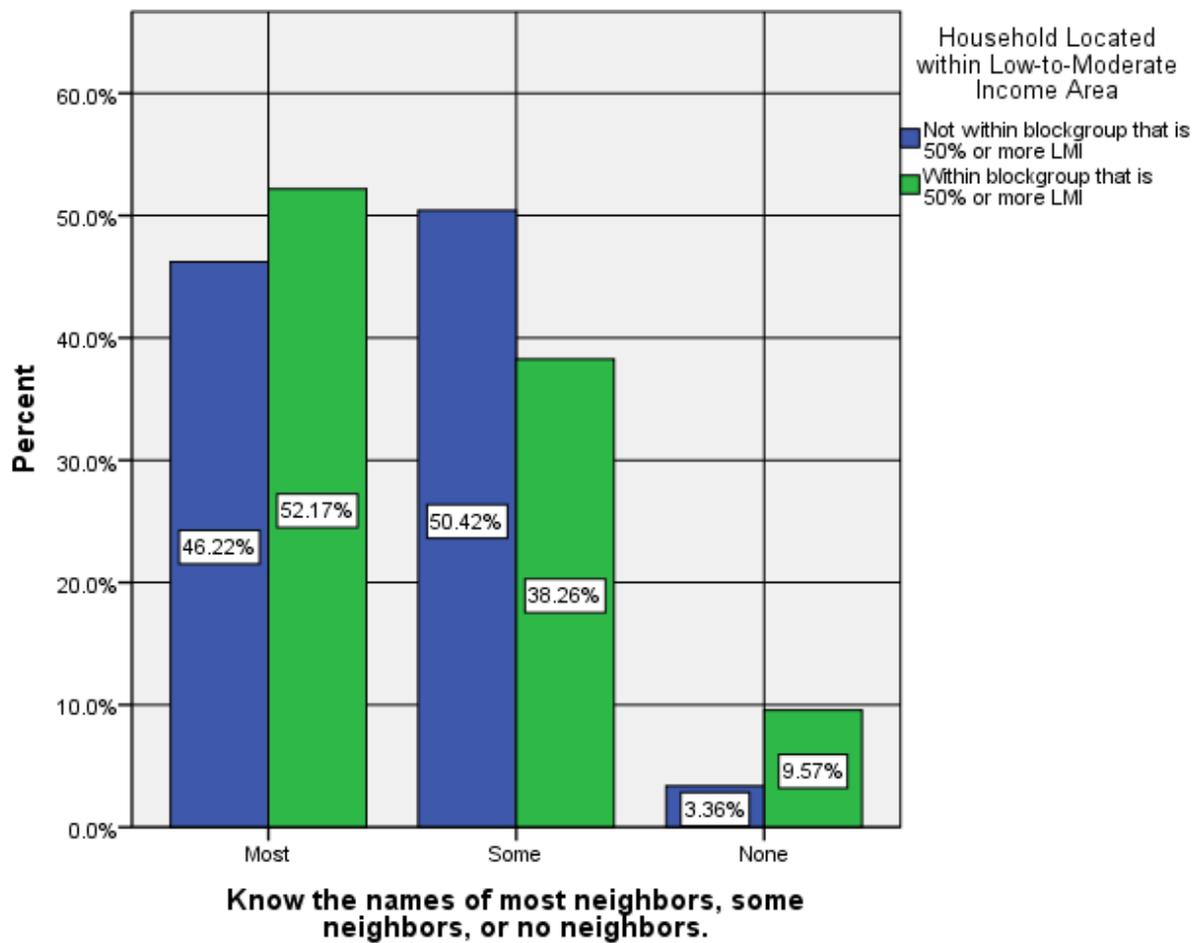
### Know Neighbors .. by.. Within 100 Meters of the Projects SLR+Surge Coastline

Households were asked to report whether or not they know the name(s) of most, some, or none of their neighbors. These households are disaggregated based on whether or not they are located within 100 meters of the projected coastline after a sea level rise (SLR) of 1.5 feet and a storm surge of 3 feet. Within 100 meters of the projected SLR+Surge coastline the following approximate percent of households report the following knowledge: 52 percent know most, 47 percent know some, and less than 2 percent know none of the names of their neighbors. Not within 100 meters of the projected SLR+Surge coastline the following approximate percent of households report the following knowledge: 46 percent know most, 46 percent know some, and 8 percent know none of the names of their neighbors.



### Know Neighbors .. by .. LMI Area

Households were asked to report whether or not they know the name(s) of most, some, or none of their neighbors. These households are disaggregated by whether or not they are located within a low-to-moderate income block group. Within low-to-moderate income block groups the following approximate percent of households report the following knowledge: 52 percent know most, 38 percent know some, and less than 10 percent know none of the names of their neighbors. Within low-to-moderate income block groups the following approximate percent of households report the following knowledge: 46 percent know most, 50 percent know some, and more than 3 percent know none of the names of their neighbors.

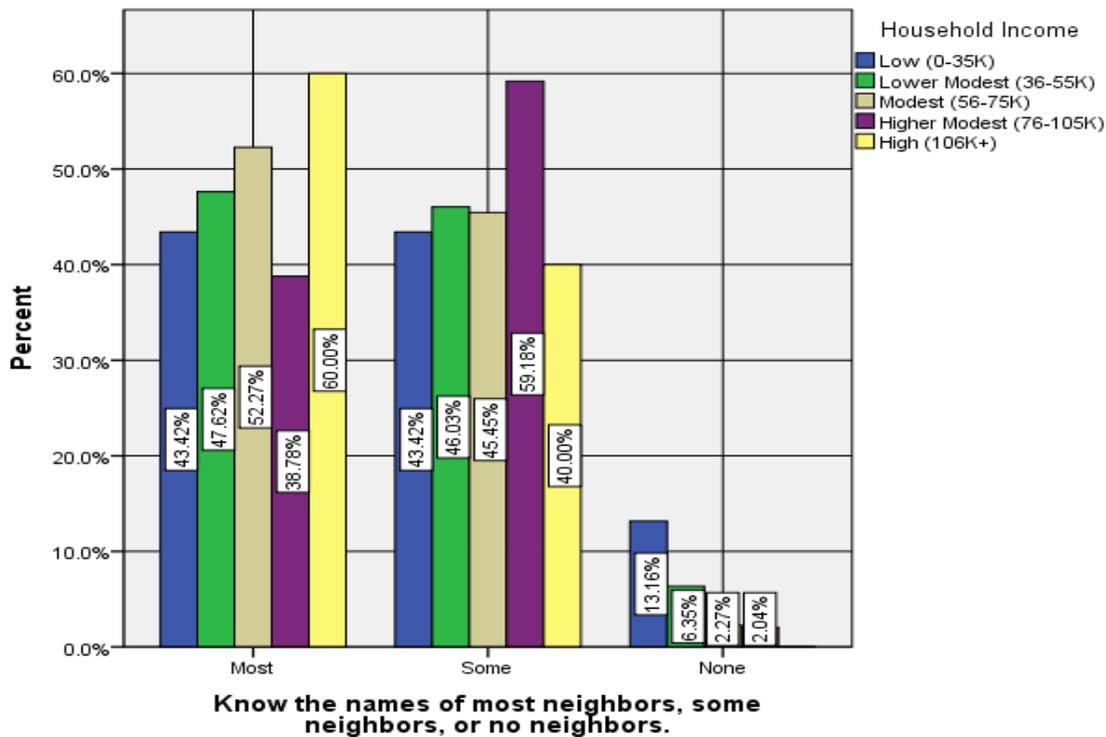


## Know Neighbors .. by .. Income

Households were asked to report whether or not they know the name(s) of most, some, or none of their neighbors. These households are disaggregated by household annual income. Five annual income ranges were considered as follows: low (\$0 - \$35,000), lower modest (\$36,000 - \$55,000), modest (\$56,000 - \$75,000), higher modest (\$76,000 - \$106,000), and high (\$105,000 or greater).

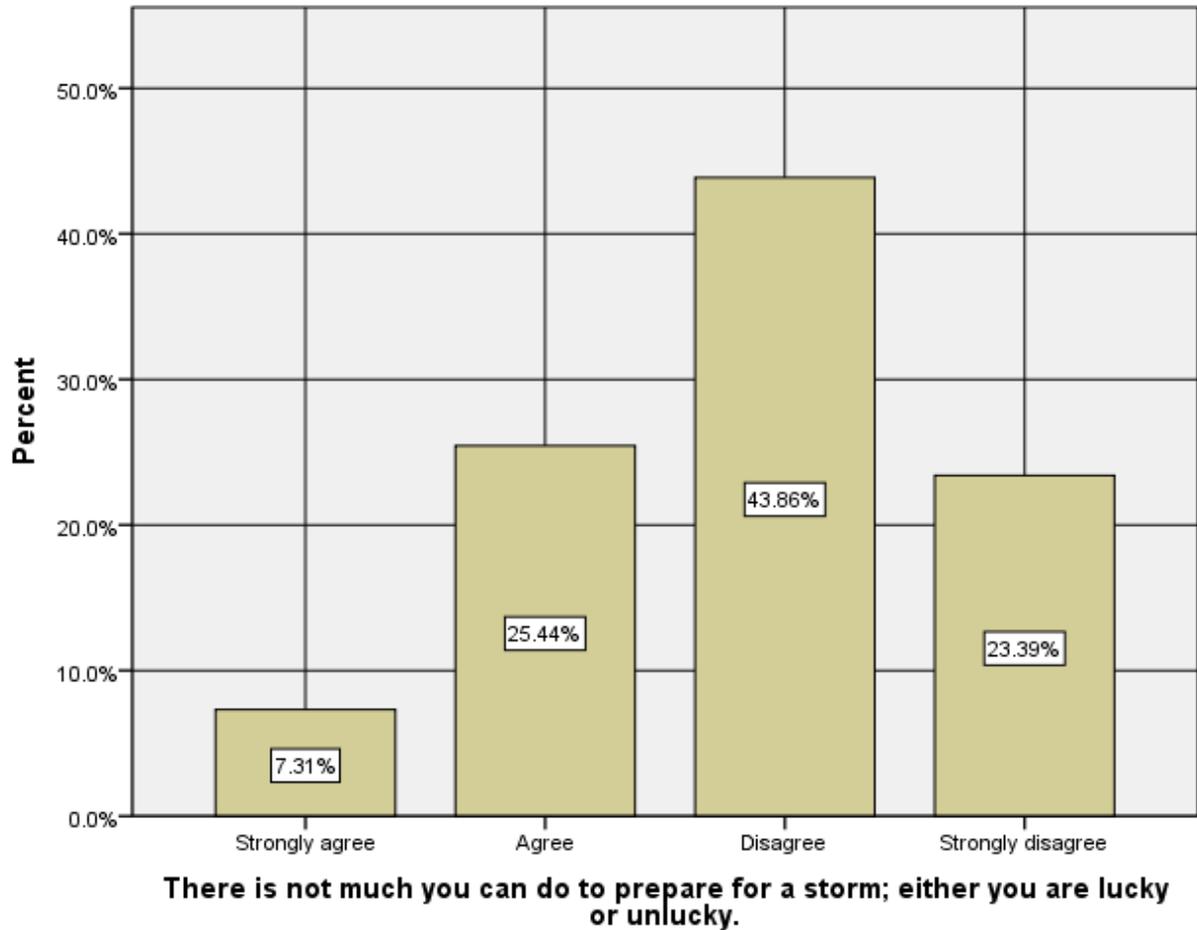
The following approximate percent of households with the following annual income ranges report the following knowledge:

- Low: 43 percent know most, 43 percent know some, and more than 13 percent know none of the names of their neighbors.
- Lower Modest: 48 percent know most, 46 percent know some, and more than 6 percent know none of the names of their neighbors.
- Modest: 52 percent know most, 45 percent know some, and more than 2 percent know none of the names of their neighbors.
- Higher Modest: 39 percent know most, 59 percent know some, and 2 percent know none of the names of their neighbors.
- High: 60 percent know most, 40 percent know some, and 0 percent know none of the names of their neighbors.



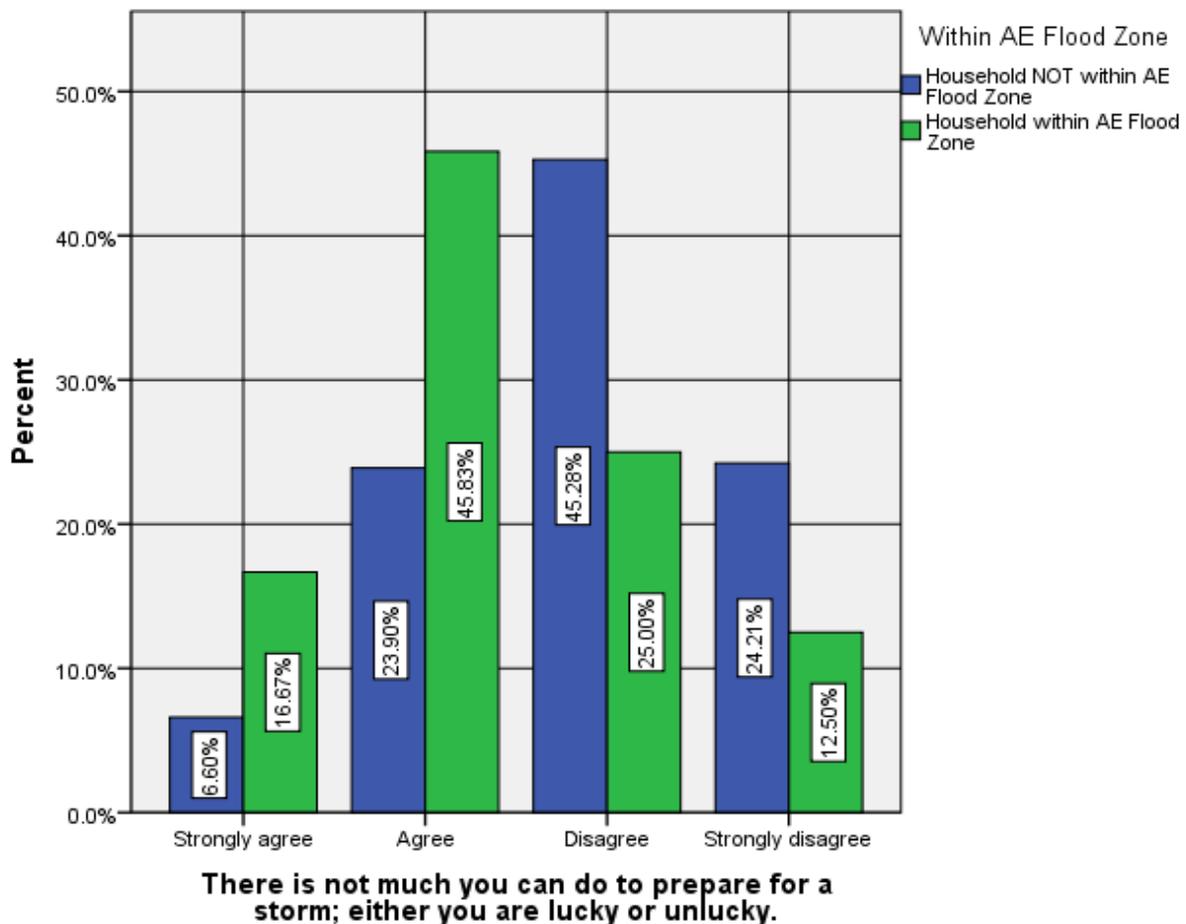
### Not Much to Prepare For

Households were asked to report their level of agreement, on a scale of totally agree, agree, disagree, or totally disagree, that “There is not much you can do to prepare for a storm; either you are lucky or unlucky.” The following approximate percent of households report the following levels of agreement: 7 percent strongly agree, 25 percent agree, 44 percent disagree, and more than 23 percent strongly disagree with the statement.



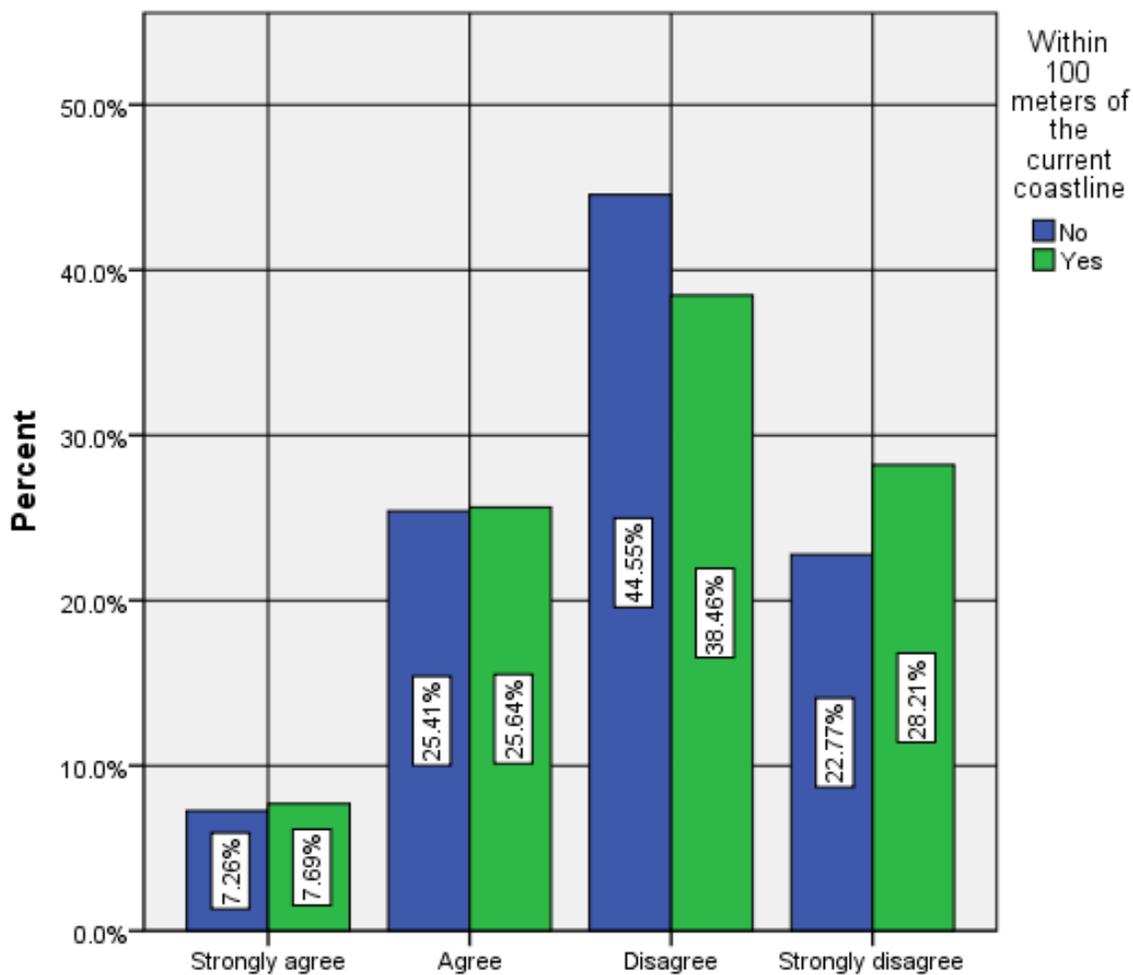
### Not Much to Prepare For .. by .. AE Flood Zone

Households were asked to report their level of agreement, on a scale of totally agree, agree, disagree, or totally disagree, that “There is not much you can do to prepare for a storm; either you are lucky or unlucky.” These households are disaggregated by whether or not they are located within an AE flood zone. Within the AE Flood Zone the following approximate percent of households report the following levels of agreement: 17 percent strongly agree, 46 percent agree, 25 percent disagree, and more than 12 percent strongly disagree with the statement. Not within the AE Flood Zone the following approximate percent of households report the following levels of agreement: 7 percent strongly agree, 24 percent agree, 45 percent disagree, and 24 percent strongly disagree with the statement.



### Not Much to Prepare For .. by .. Within 100 Meters of the Current Coastline

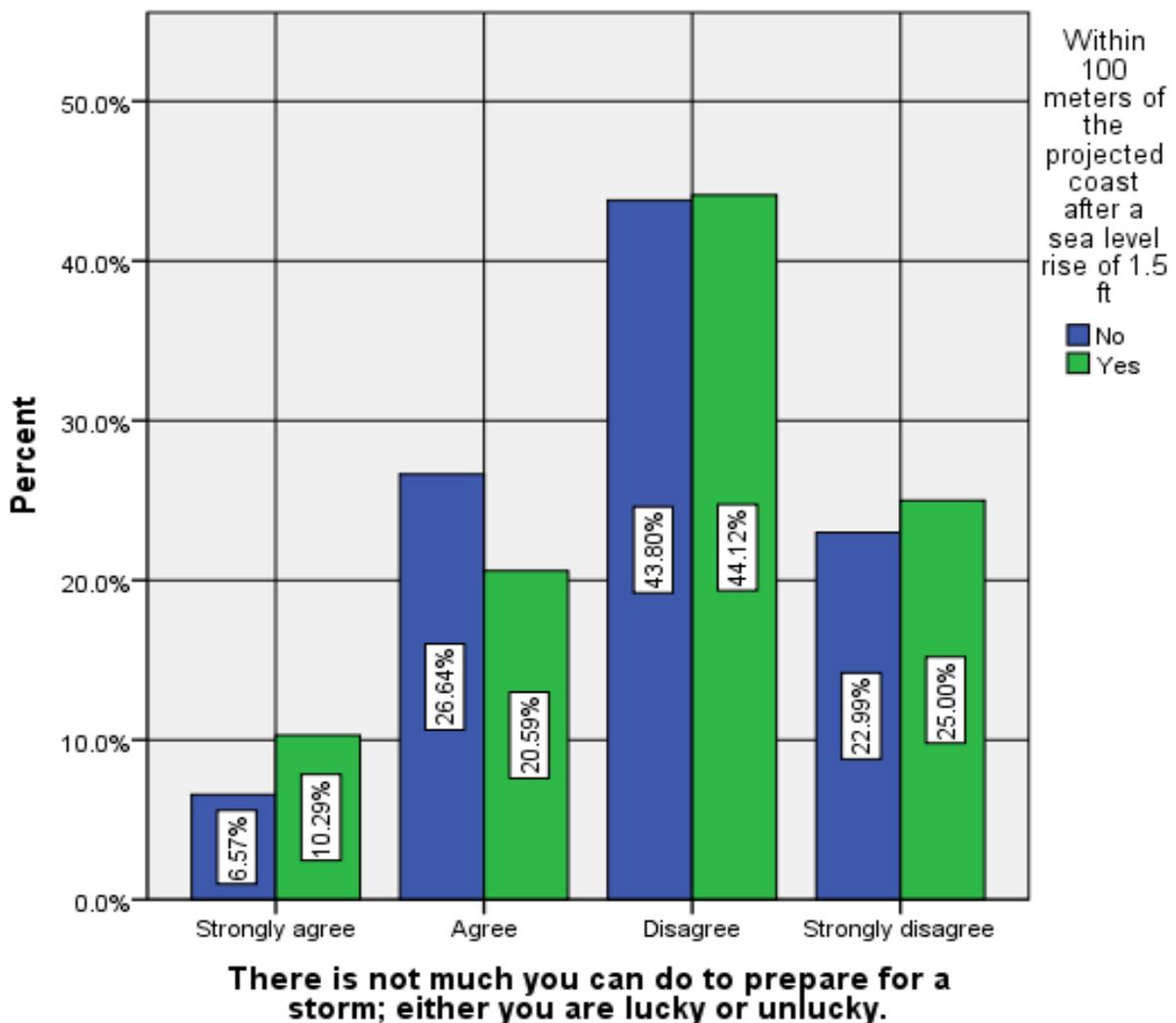
Households were asked to report their level of agreement, on a scale of totally agree, agree, disagree, or totally disagree, that “There is not much you can do to prepare for a storm; either you are lucky or unlucky.” These households are disaggregated based on whether or not they are located within 100 meters of the current coastline. Within 100 meters of the current coastline the following approximate percent of households report the following levels of agreement: 8 percent strongly agree, 26 percent agree, 38 percent disagree, and 28 percent strongly disagree with the statement. Not within 100 meters of the current coastline the following approximate percent of households report the following levels of agreement: 8 percent strongly agree, 25 percent agree, 45 percent disagree, and more than 22 percent strongly disagree with the statement.



**There is not much you can do to prepare for a storm; either you are lucky or unlucky.**

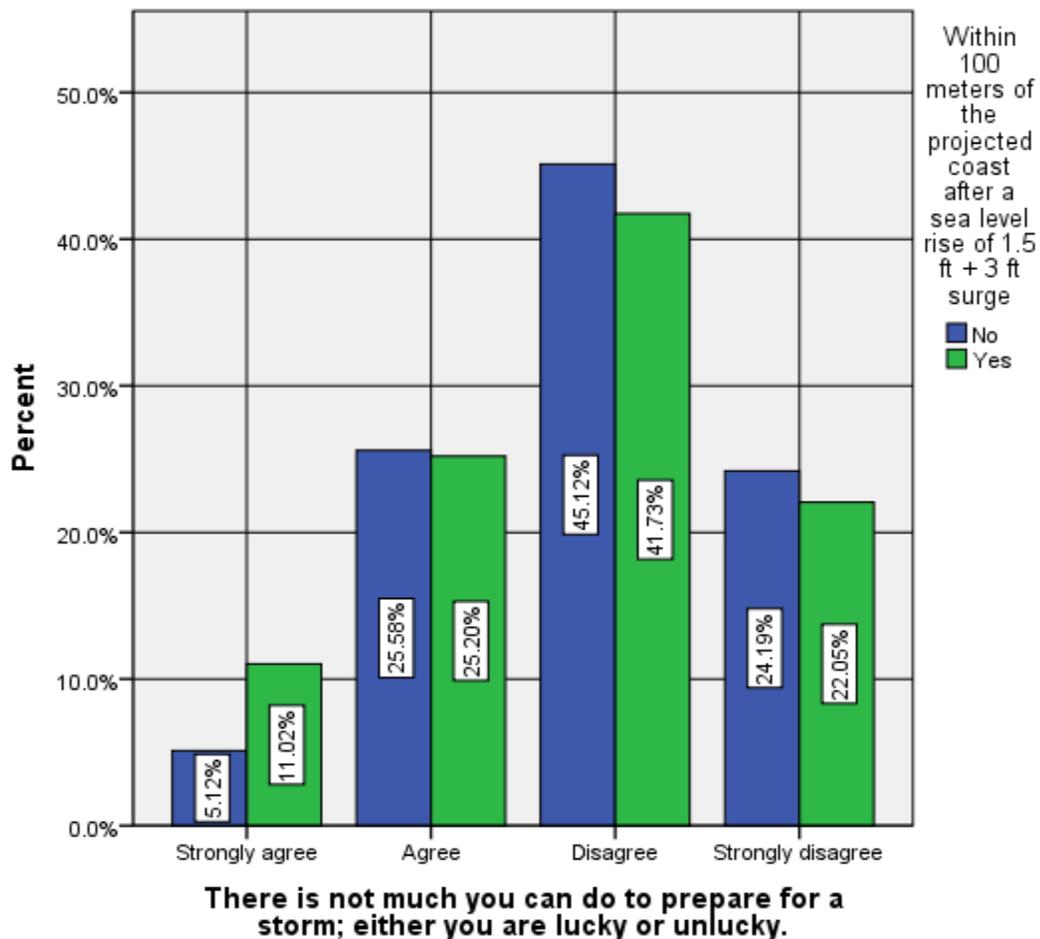
### Not Much to Prepare For .. by .. Within 100 Meters of the Projected SLR Coastline

Households were asked to report their level of agreement, on a scale of totally agree, agree, disagree, or totally disagree, that “There is not much you can do to prepare for a storm; either you are lucky or unlucky.” These households are disaggregated based on whether or not they are located within 100 meters of the projected coastline after a sea level rise (SLR) of 1.5 feet. Within 100 meters of the projected SLR coastline the following approximate percent of households report the following levels of agreement: 10 percent strongly agree, 21 percent agree, 44 percent disagree, and 25 percent strongly disagree with the statement. Not within 100 meters of the projected SLR coastline the following approximate percent of households report the following levels of agreement: 7 percent strongly agree, 27 percent agree, 44 percent disagree, and more than 22 percent strongly disagree with the statement.



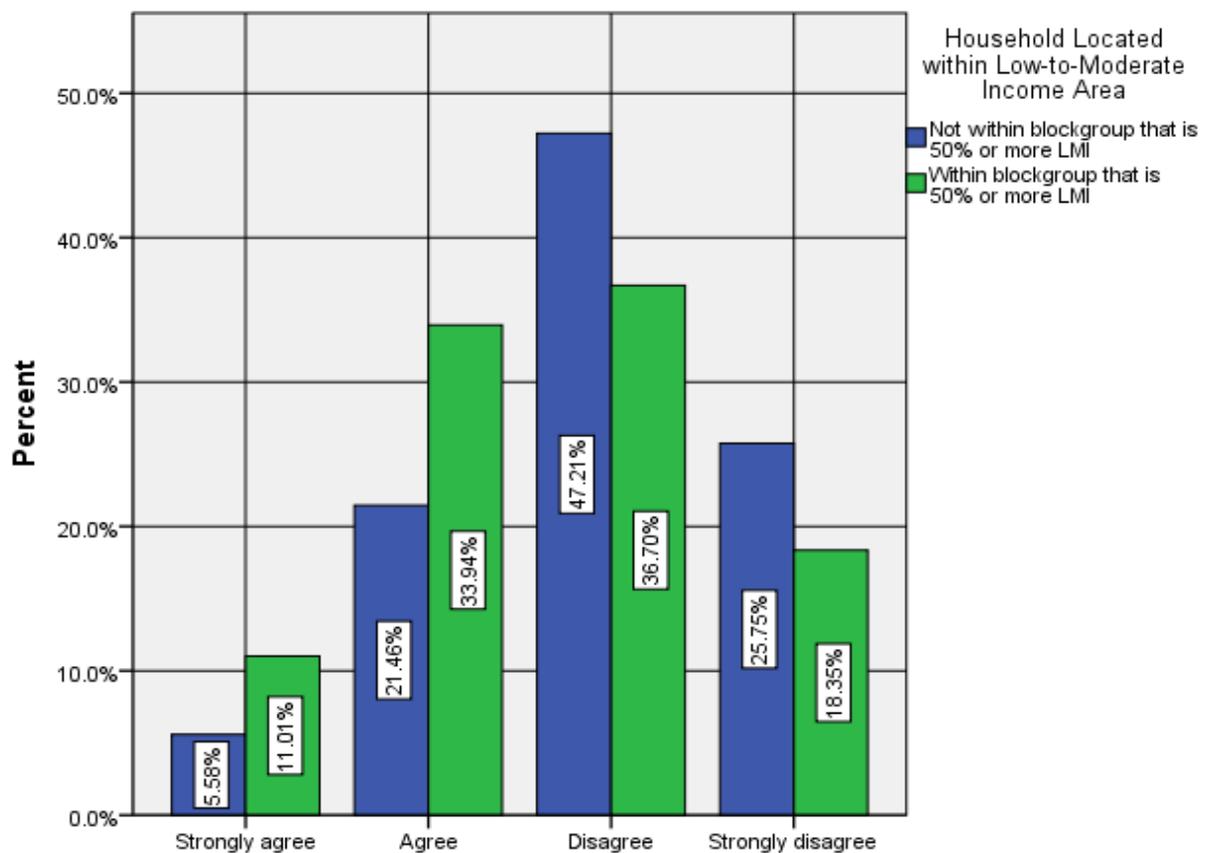
### Not Much to Prepare For .. by.. Within 100 Meters of the Projects SLR+Surge Coastline

Households were asked to report their level of agreement, on a scale of totally agree, agree, disagree, or totally disagree, that “There is not much you can do to prepare for a storm; either you are lucky or unlucky.” These households are disaggregated based on whether or not they are located within 100 meters of the projected coastline after a sea level rise (SLR) of 1.5 feet and a storm surge of 3 feet. Within 100 meters of the projected SLR+Surge coastline the following approximate percent of households report the following levels of agreement: 11 percent strongly agree, 25 percent agree, 42 percent disagree, and 22 percent strongly disagree with the statement. Not within 100 meters of the projected SLR+Surge coastline the following approximate percent of households report the following levels of agreement: 5 percent strongly agree, 26 percent agree, 45 percent disagree, and 24 percent strongly disagree with the statement.



### Not Much to Prepare For .. by .. LMI Area

Households were asked to report their level of agreement, on a scale of totally agree, agree, disagree, or totally disagree, that “There is not much you can do to prepare for a storm; either you are lucky or unlucky.” These households are disaggregated by whether or not they are located within a low-to-moderate income block group. Within low-to-moderate income block groups the following approximate percent of households report the following levels of agreement: 11 percent strongly agree, 34 percent agree, 37 percent disagree, and 18 percent strongly disagree with the statement. Not within low-to-moderate income block groups the following approximate percent of households report the following levels of agreement: 6 percent strongly agree, 21 percent agree, 47 percent disagree, and 26 percent strongly disagree with the statement.

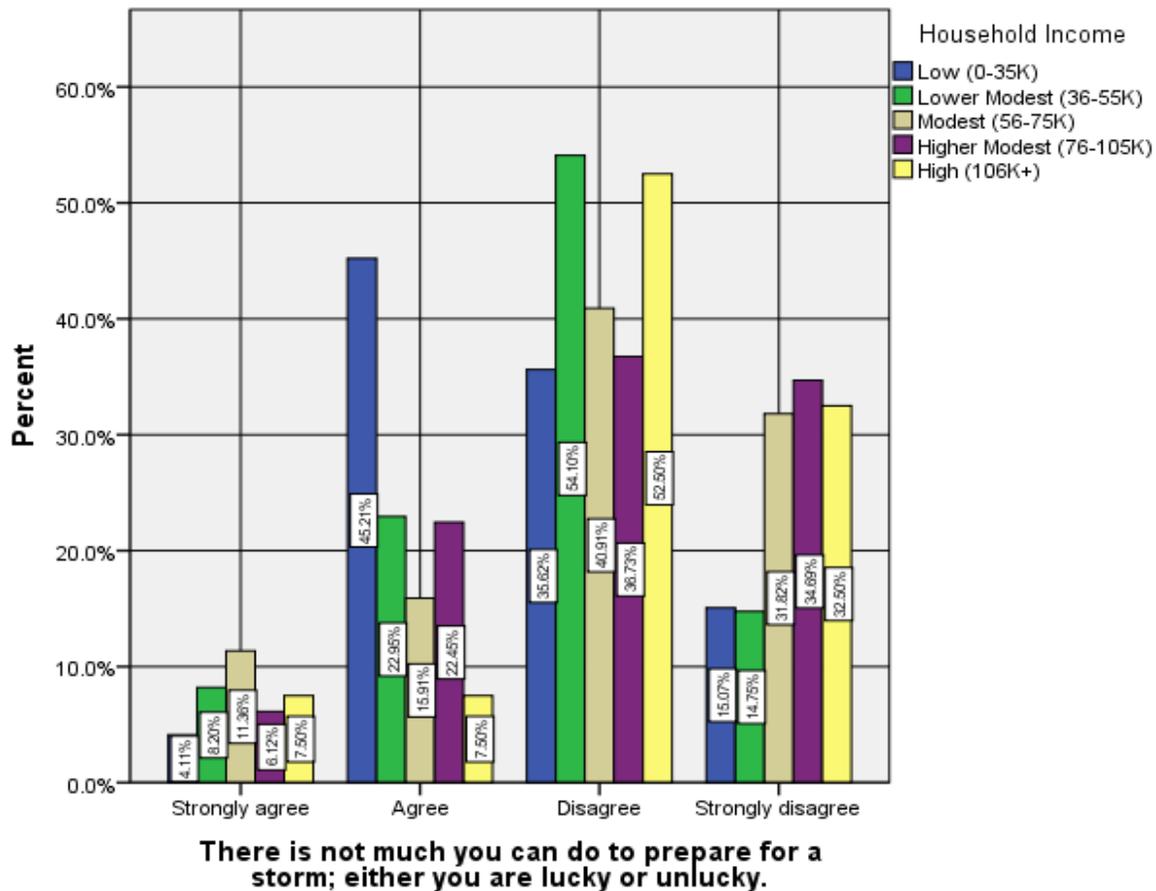


**There is not much you can do to prepare for a storm; either you are lucky or unlucky.**

## Not Much to Prepare For .. by .. Income

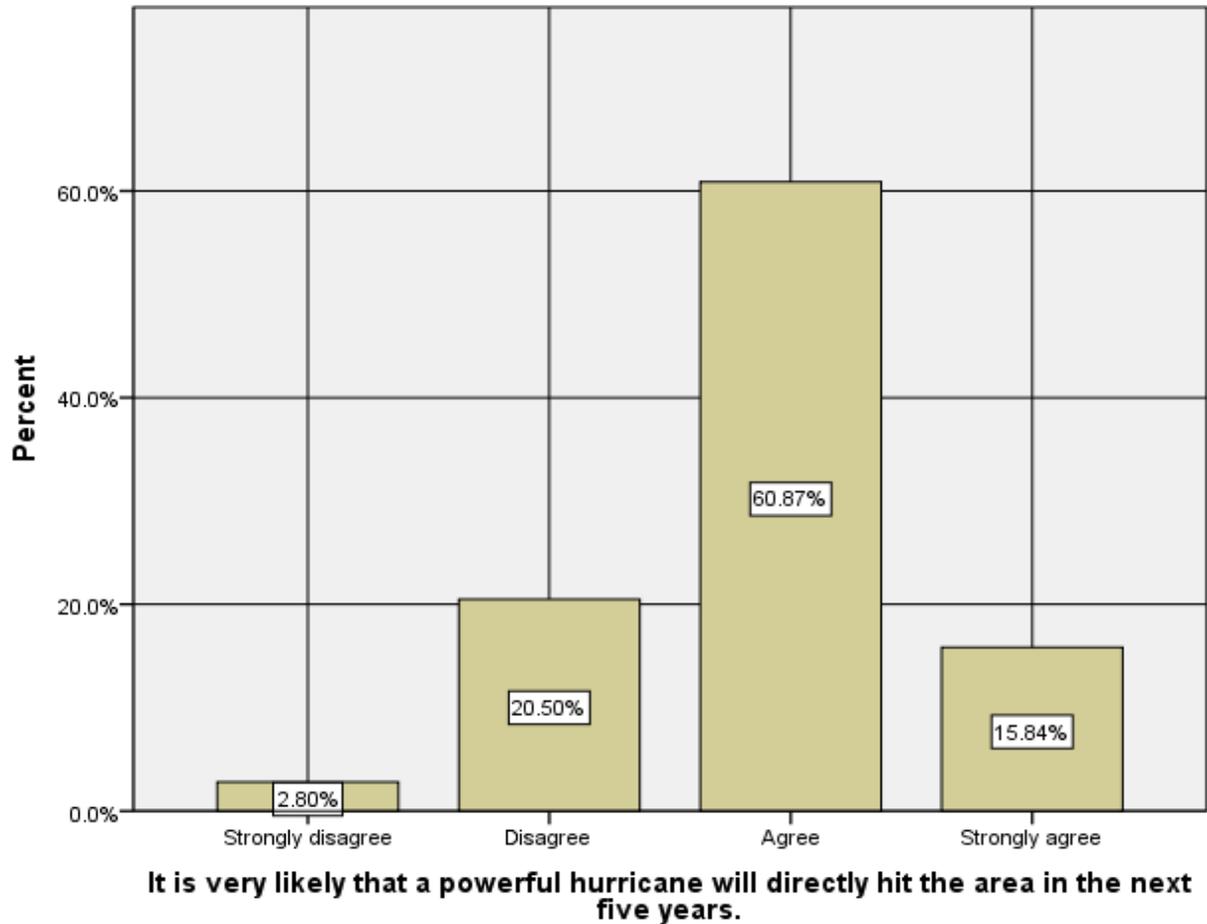
Households were asked to report their level of agreement, on a scale of totally agree, agree, disagree, or totally disagree, that “There is not much you can do to prepare for a storm; either you are lucky or unlucky.” These households are disaggregated by household annual income. The following approximate percent of households report the following level of agreement with the statement:

- Low: 4 percent strongly agree, 45 percent agree, 36 percent disagree, and 15 percent strongly disagree.
- Lower Modest: 8 percent strongly agree, 22 percent agree, 54 percent disagree, and more than 14 percent strongly disagree.
- Modest: 11 percent strongly agree, 16 percent agree, 40 percent disagree, and more than 31 percent strongly disagree.
- Higher Modest: 6 percent strongly agree, 22 percent agree, 37 percent disagree, and 35 percent strongly disagree.
- High: 7 percent strongly agree, 8 percent agree, 52 percent disagree, and 32 percent strongly disagree.



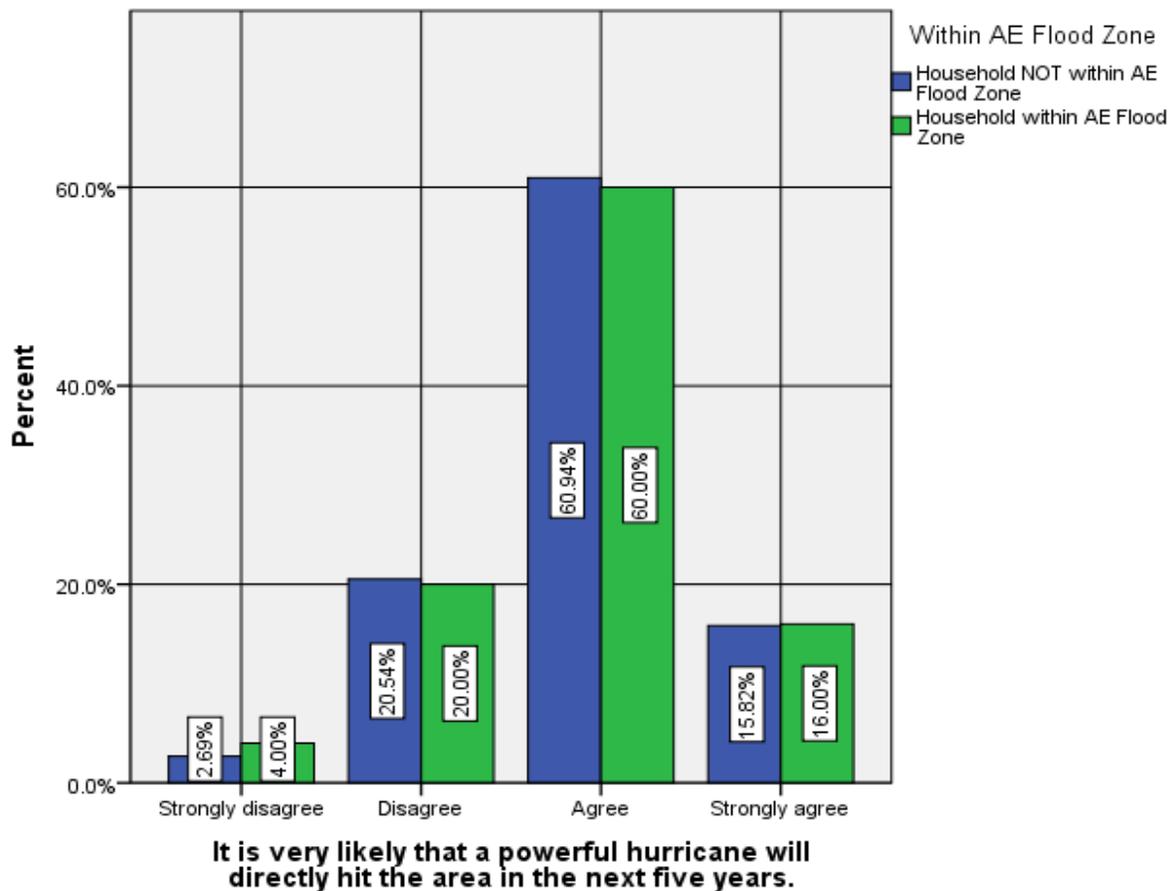
### Hurricane Likely Within 5 Years

Households were asked to report their level of agreement, on a scale of totally agree, agree, disagree, or totally disagree, that “it is very likely that a powerful hurricane will directly hit the area in the next five years.” The following approximate percent of households report the following levels of agreement: 3 percent strongly agree, 21 percent agree, 61 percent disagree, and more than 15 percent strongly disagree with the statement.



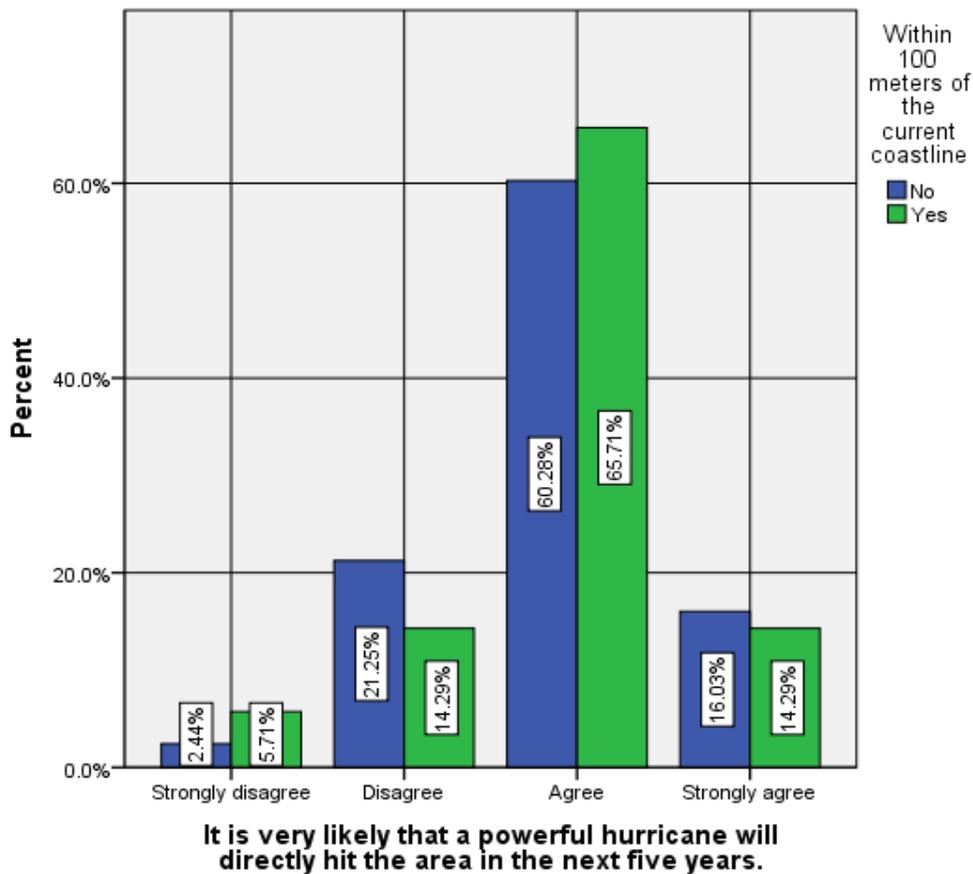
### Hurricane Likely Within 5 Years .. by .. AE Flood Zone

Households were asked to report their level of agreement, on a scale of totally agree, agree, disagree, or totally disagree, that “it is very likely that a powerful hurricane will directly hit the area in the next five years.” These households are disaggregated by whether or not they are located within an AE flood zone. Within the AE Flood Zone the following approximate percent of households report the following levels of agreement: 16 percent strongly agree, 60 percent agree, 20 percent disagree, and more than 4 percent strongly disagree with the statement. Not within the AE Flood Zone the following approximate percent of households report the following levels of agreement: 16 percent strongly agree, 60 percent agree, 21 percent disagree, and 3 percent strongly disagree with the statement.



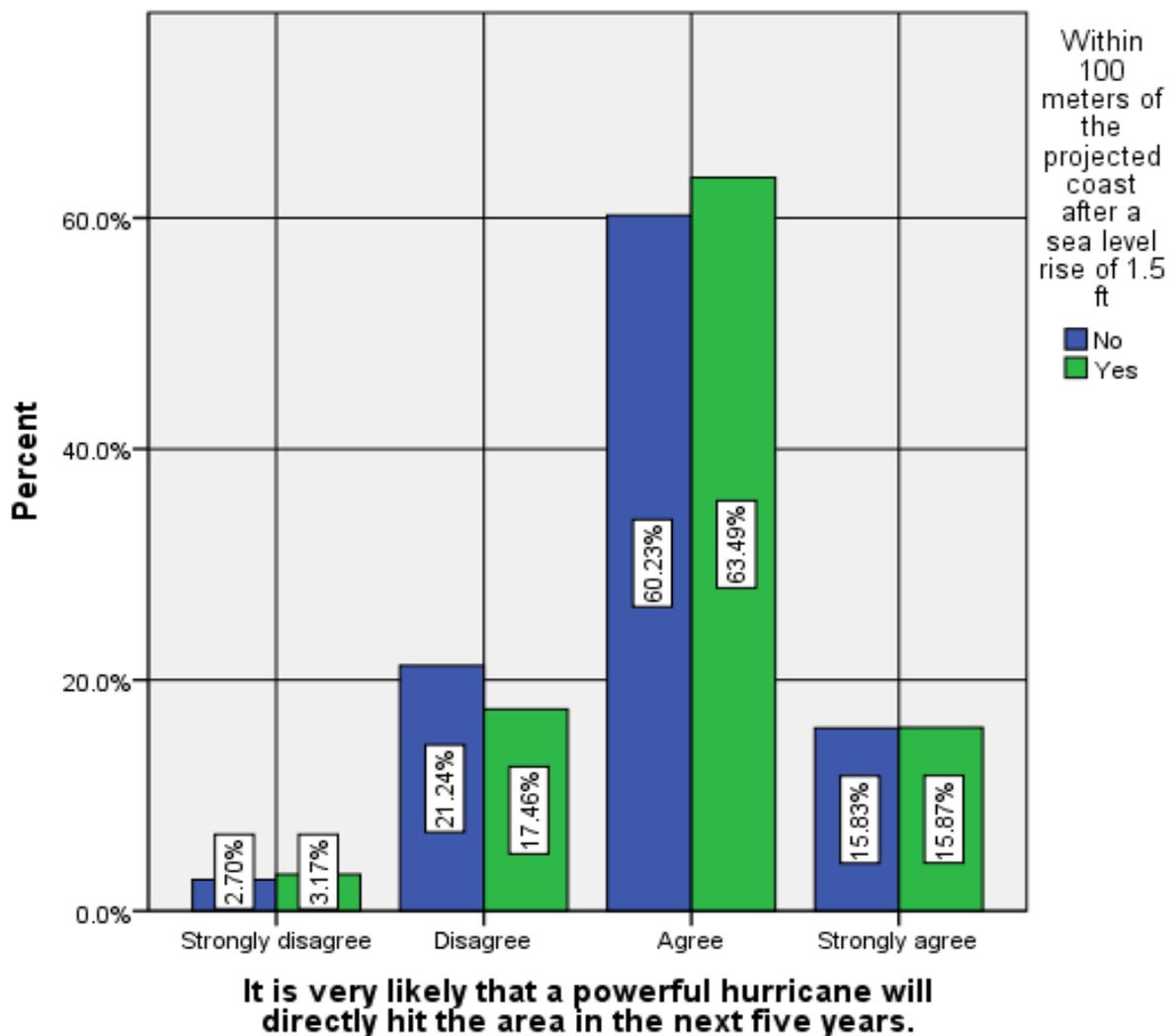
### Hurricane Likely Within 5 Years .. by .. Within 100 Meters of the Current Coastline

Households were asked to report their level of agreement, on a scale of totally agree, agree, disagree, or totally disagree, that “it is very likely that a powerful hurricane will directly hit the area in the next five years.” These households are disaggregated based on whether or not they are located within 100 meters of the current coastline. Within 100 meters of the current coastline the following approximate percent of households report the following levels of agreement: 14 percent strongly agree, 66 percent agree, 14 percent disagree, and 6 percent strongly disagree with the statement. Not within 100 meters of the current coastline the following approximate percent of households report the following levels of agreement: 16 percent strongly agree, 21 percent disagree, 60 percent agree, and more than 3 percent strongly disagree with the statement.



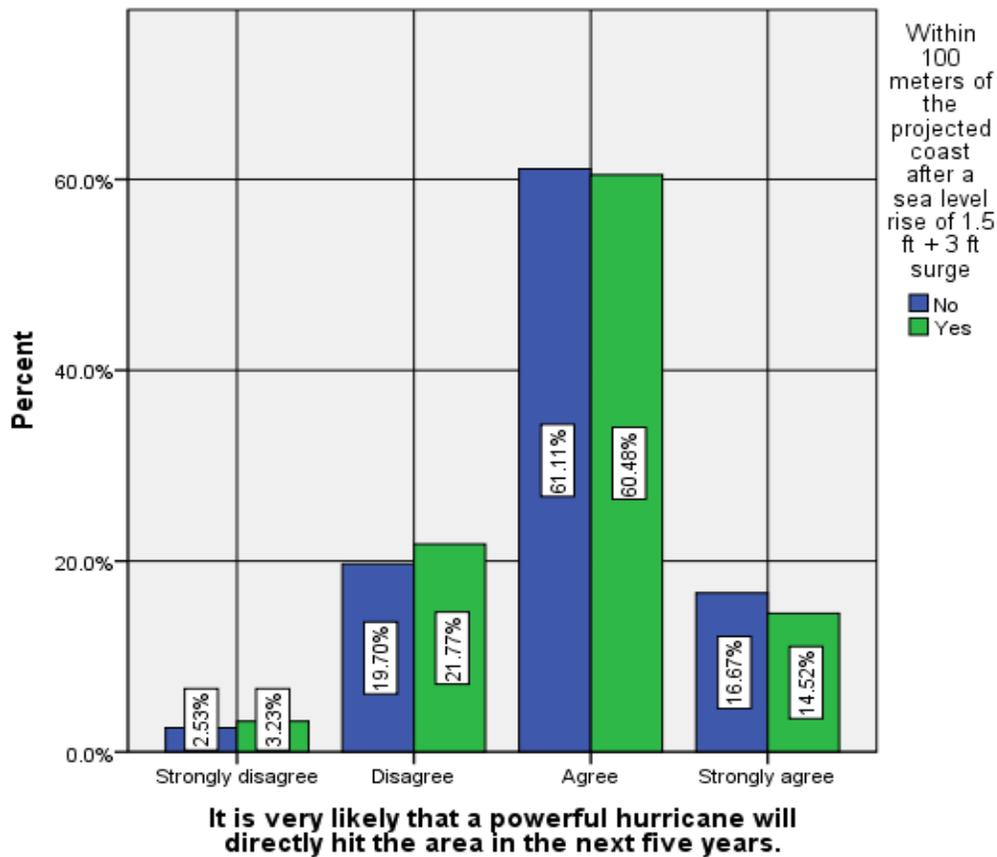
### Hurricane Likely Within 5 Years .. by .. Within 100 Meters of the Projected SLR Coastline

Households were asked to report their level of agreement, on a scale of totally agree, agree, disagree, or totally disagree, that “it is very likely that a powerful hurricane will directly hit the area in the next five years.” These households are disaggregated based on whether or not they are located within 100 meters of the projected coastline after a sea level rise (SLR) of 1.5 feet. Within 100 meters of the projected SLR coastline the following approximate percent of households report the following levels of agreement: 16 percent strongly agree, 64 percent agree, 17 percent disagree, and 3 percent strongly disagree with the statement. Not within 100 meters of the projected SLR coastline the following approximate percent of households report the following levels of agreement: 16 percent strongly agree, 60 percent agree, 21 percent disagree, and more than 3 percent strongly disagree with the statement.



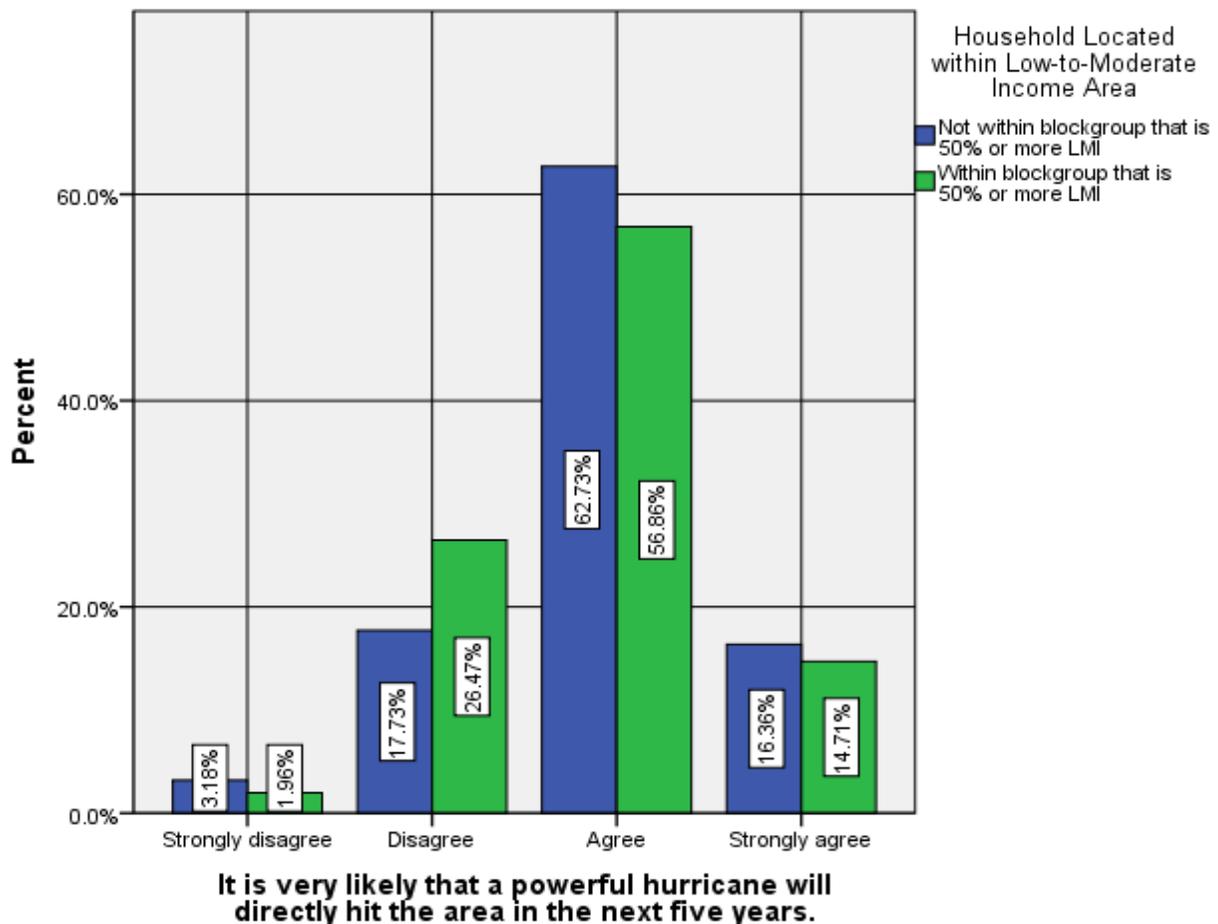
### Hurricane Likely Within 5 Years .. by.. Within 100 Meters of the Projects SLR+Surge Coastline

Households were asked to report their level of agreement, on a scale of totally agree, agree, disagree, or totally disagree, that “it is very likely that a powerful hurricane will directly hit the area in the next five years.” These households are disaggregated based on whether or not they are located within 100 meters of the projected coastline after a sea level rise (SLR) of 1.5 feet and a storm surge of 3 feet. Within 100 meters of the projected SLR+Surge coastline the following approximate percent of households report the following levels of agreement: 15 percent strongly agree, 60 percent agree, 22 percent disagree, and 3 percent strongly disagree with the statement. Not within 100 meters of the projected SLR+Surge coastline the following approximate percent of households report the following levels of agreement: 17 percent strongly agree, 61 percent agree, 20 percent disagree, and more than 2 percent strongly disagree with the statement.



### Hurricane Likely Within 5 Years .. by .. LMI Area

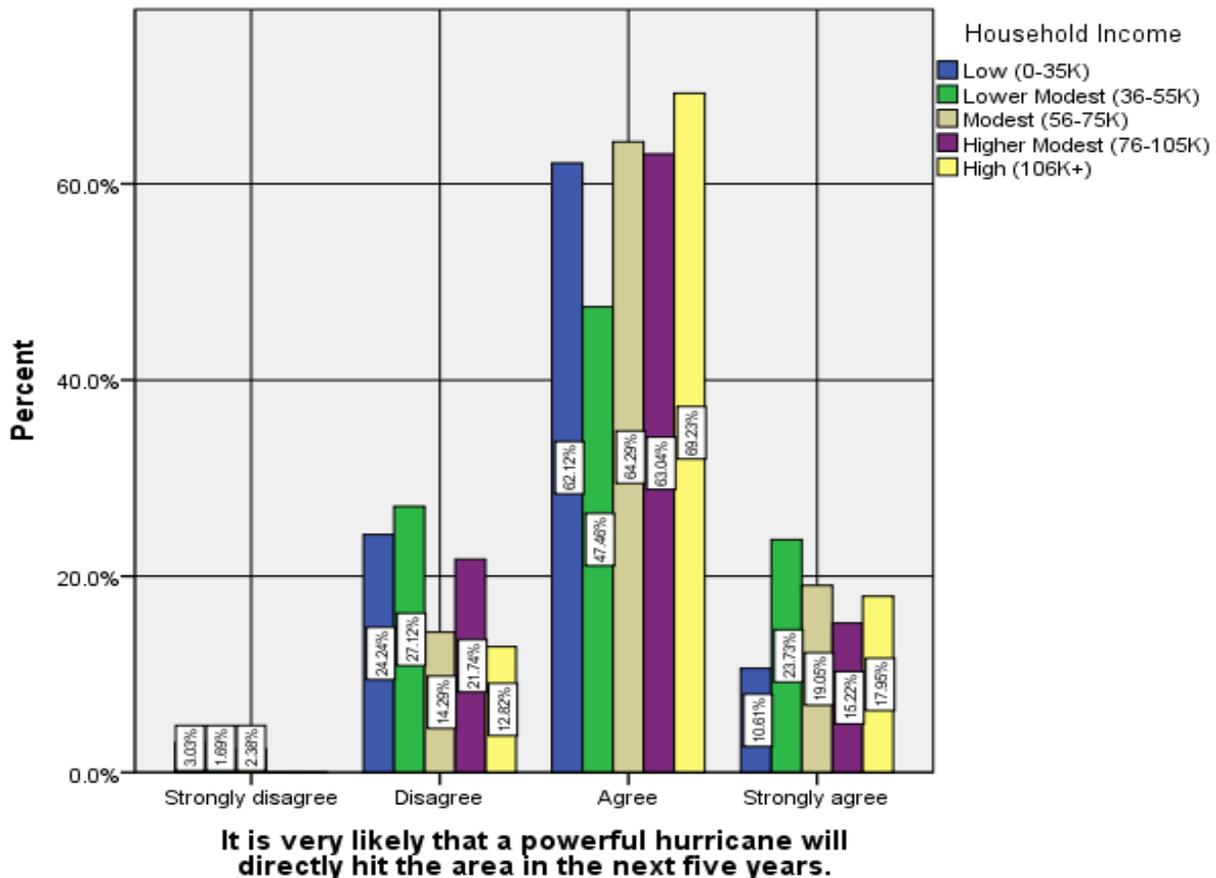
Households were asked to report their level of agreement, on a scale of totally agree, agree, disagree, or totally disagree, that “it is very likely that a powerful hurricane will directly hit the area in the next five years.” These households are disaggregated by whether or not they are located within a low-to-moderate income block group. Within low-to-moderate income block groups the following approximate percent of households report the following levels of agreement: 15 percent strongly agree, 57 percent agree, 27 percent disagree, and more than 1 percent strongly disagree with the statement. Not within low-to-moderate income block groups the following approximate percent of households report the following levels of agreement: 16 percent strongly agree, 63 percent agree, 18 percent disagree, and 3 percent strongly disagree with the statement.



## Hurricane Likely Within 5 Years .. by .. Income

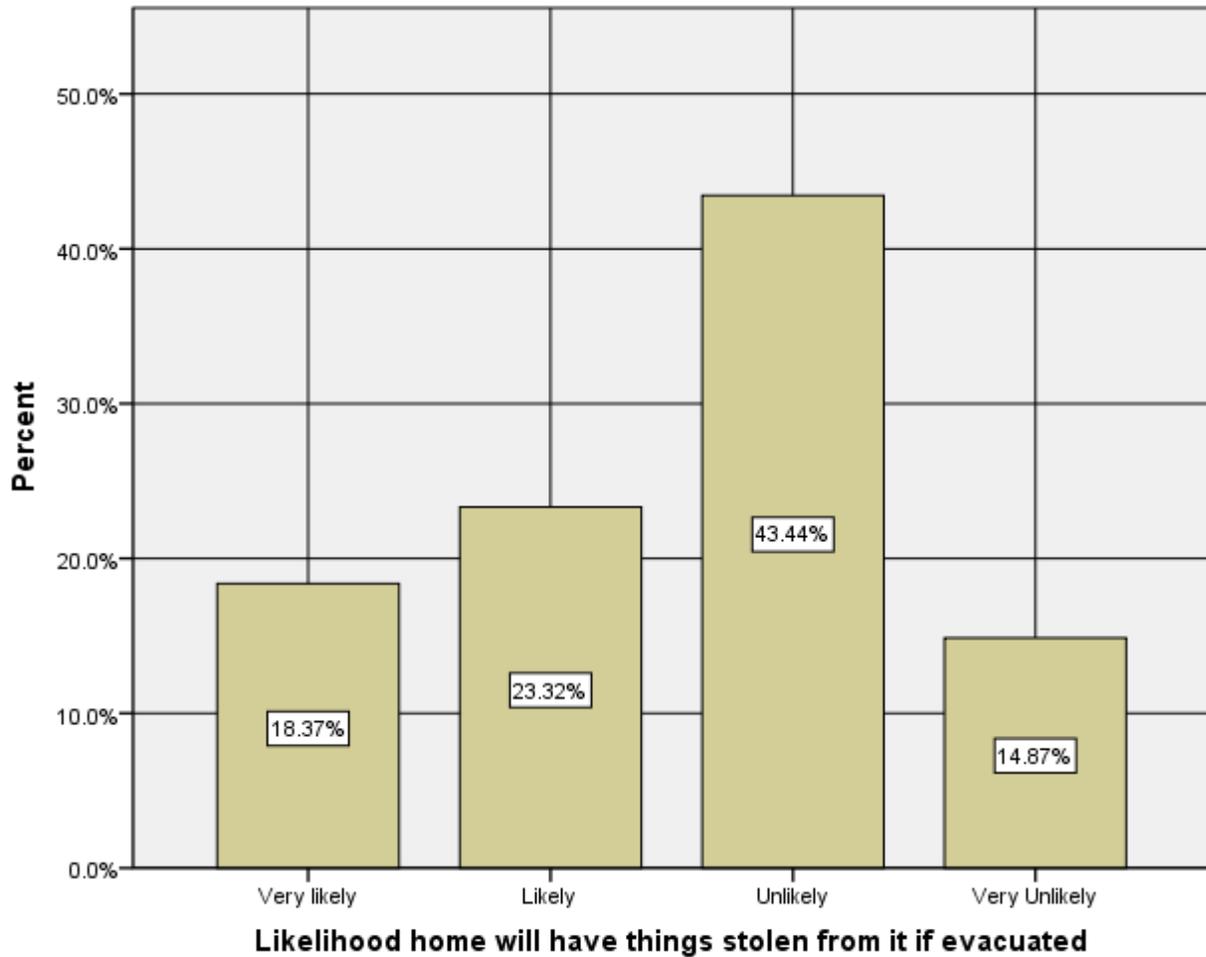
Households were asked to report their level of agreement, on a scale of totally agree, agree, disagree, or totally disagree, that “it is very likely that a powerful hurricane will directly hit the area in the next five years.” These households are disaggregated by household annual income. The following approximate percent of households report the following level of agreement with the statement:

- Low: 11 percent strongly agree, 62 percent agree, 24 percent disagree, and 3 percent strongly disagree.
- Lower Modest: 24 percent strongly agree, 47 percent agree, 27 percent disagree, and less than 2 percent strongly disagree.
- Modest: 19 percent strongly agree, 64 percent agree, 14 percent disagree, and more than 2 percent strongly disagree.
- Higher Modest: 15 percent strongly agree, 63 percent agree, 22 percent disagree, and 0 percent strongly disagree.
- High: 18 percent strongly agree, 69 percent agree, 13 percent disagree, and 0 percent strongly disagree.



## Theft from Home

Households were asked to report the likelihood, on a scale of very likely, likely, unlikely, or very unlikely that “their home will have things stolen from it if they evacuate.” The following approximate percent of households report the following likelihoods: 18 percent very likely, 23 percent likely, 43 percent unlikely, and 15 percent very unlikely.

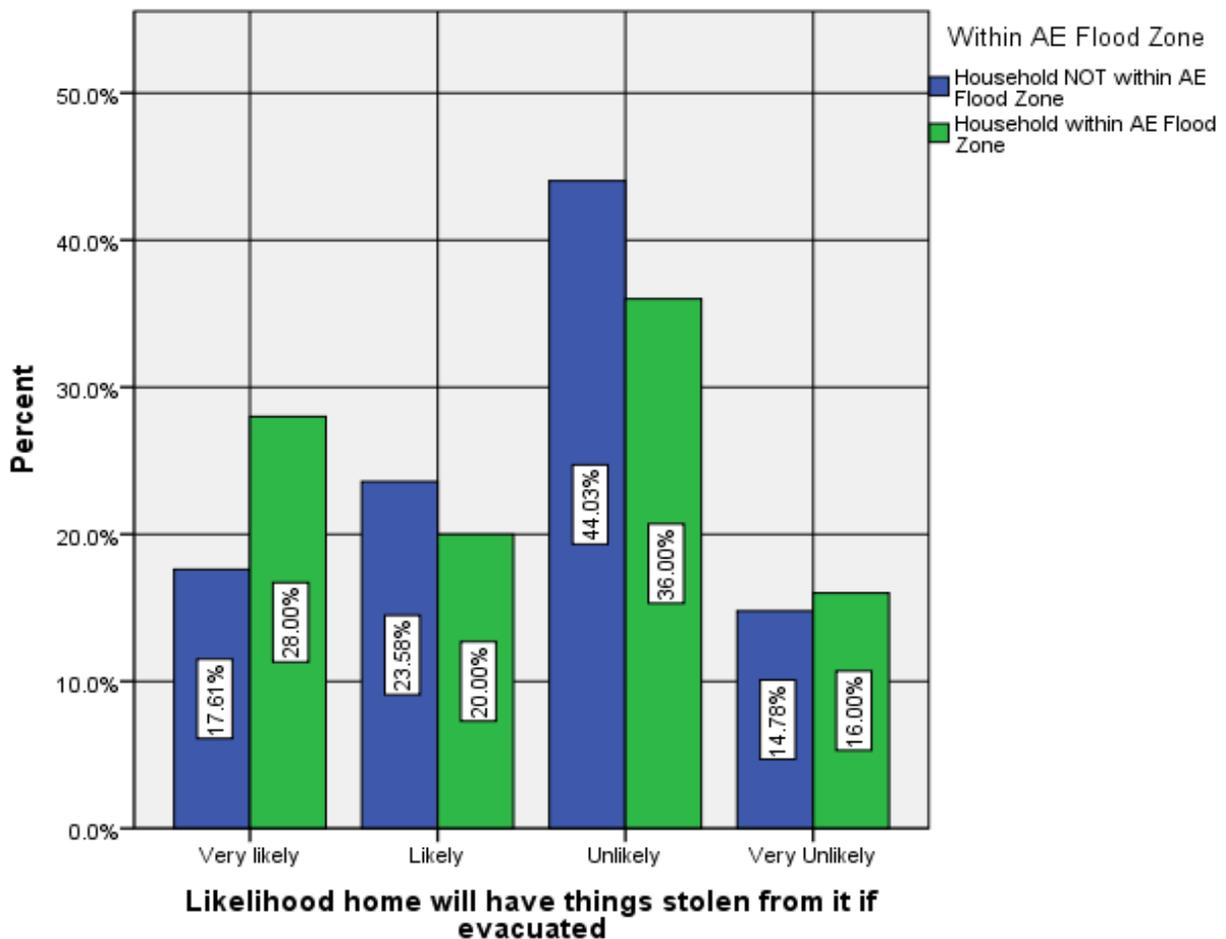


### Theft from Home .. by .. AE Flood Zone

Households were asked to report the likelihood, on a scale of very likely, likely, unlikely, or very unlikely that “their home will have things stolen from it if they evacuate.” These households are disaggregated by whether or not they are located within an AE flood zone.

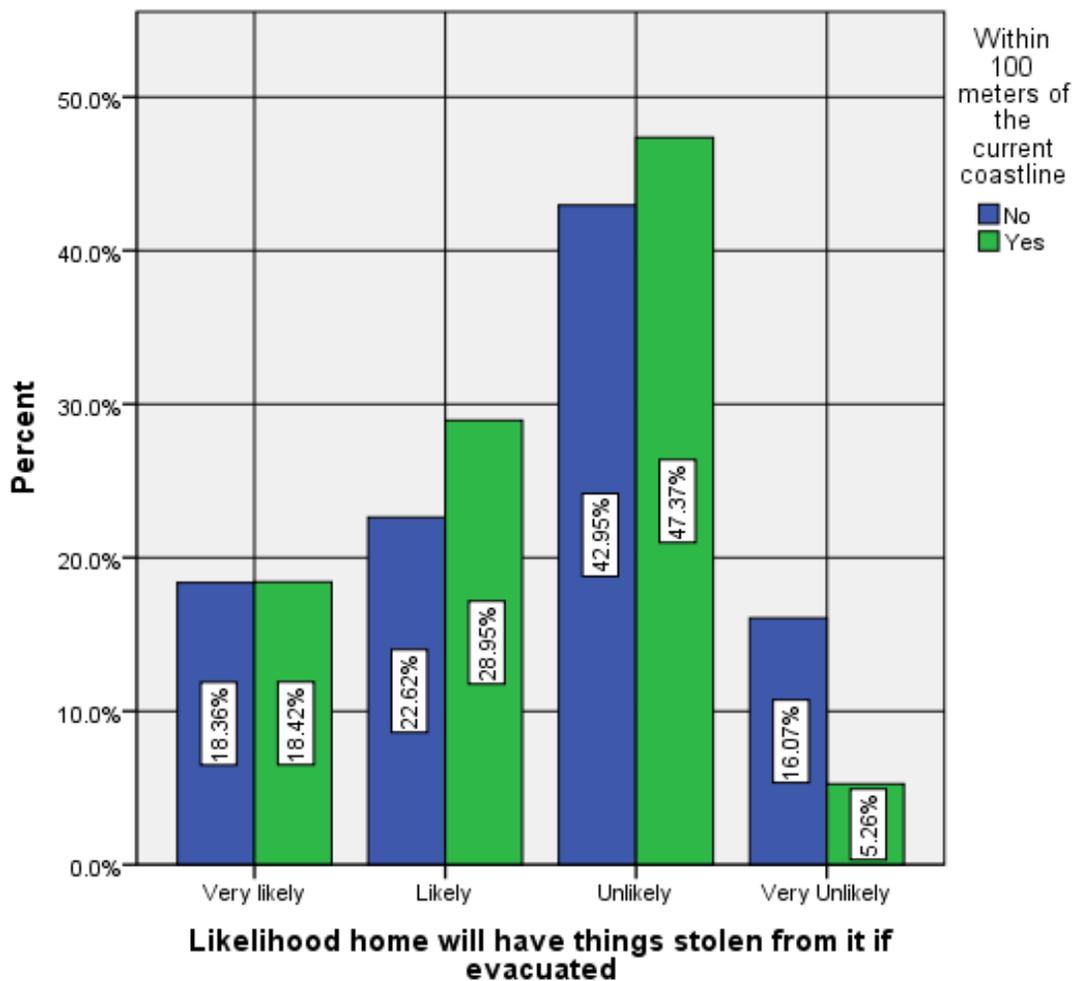
Within the AE Flood Zone the following approximate percent of households report the following levels of likelihood: 28 percent very likely, 20 percent likely, 36 percent unlikely, and 16 percent very unlikely.

Not within the AE Flood Zone the following approximate percent of households report the following levels of likelihood: 18 percent very likely, 24 percent likely, 44 percent unlikely, and more than 14 percent very unlikely.



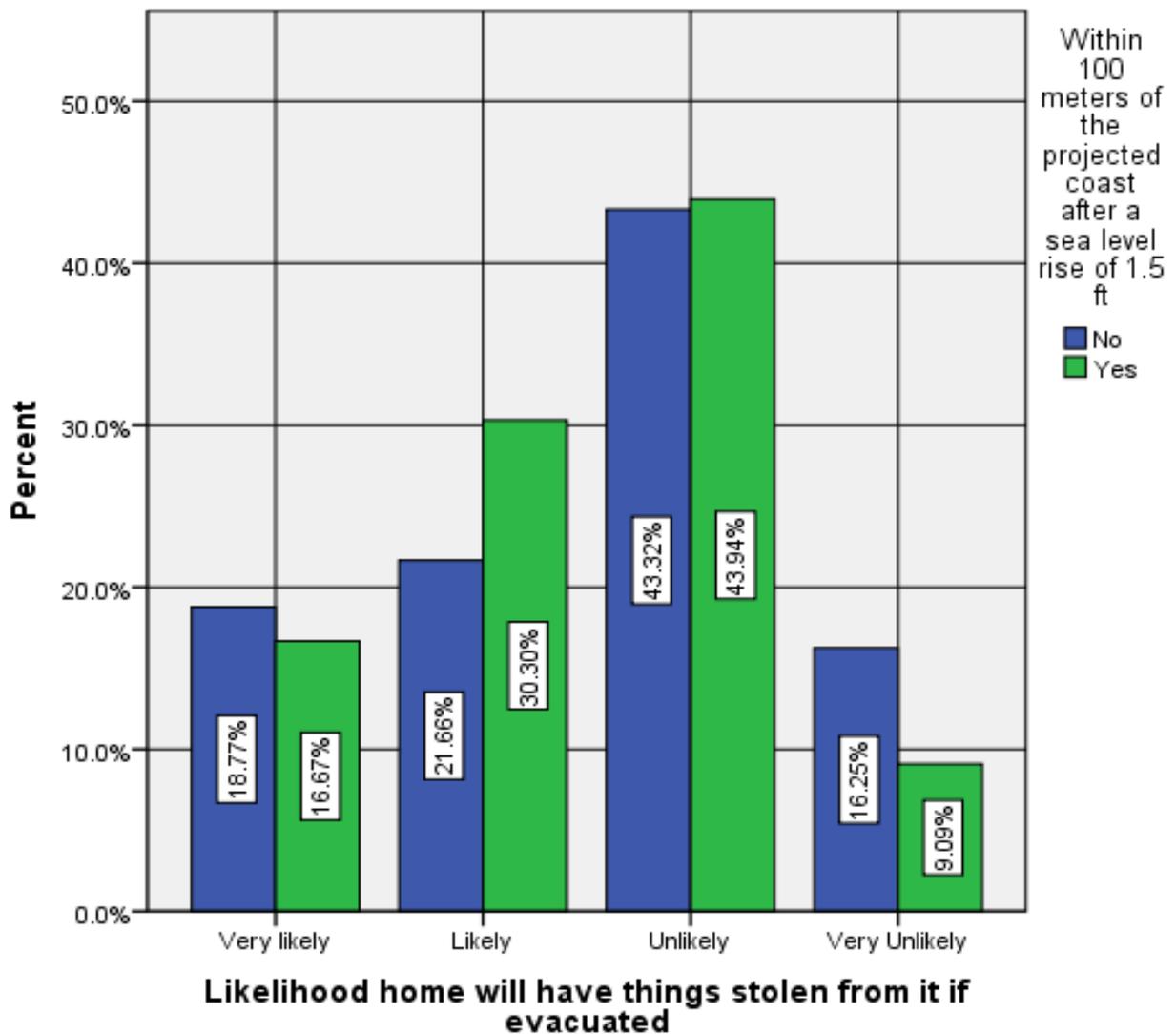
### Theft from Home .. by .. Within 100 Meters of the Current Coastline

Households were asked to report the likelihood, on a scale of very likely, likely, unlikely, or very unlikely that “their home will have things stolen from it if they evacuate.” These households are disaggregated based on whether or not they are located within 100 meters of the current coastline. Within 100 meters of the current coastline the following approximate percent of households report the following levels of likelihood: 18 percent very likely, 29 percent likely, 47 percent unlikely, and more than 5 percent very unlikely. Not within 100 meters of the current coastline the following approximate percent of households report the following levels of likelihood: 18 percent very likely, 23 percent likely, 43 percent unlikely, and 16 percent very unlikely.



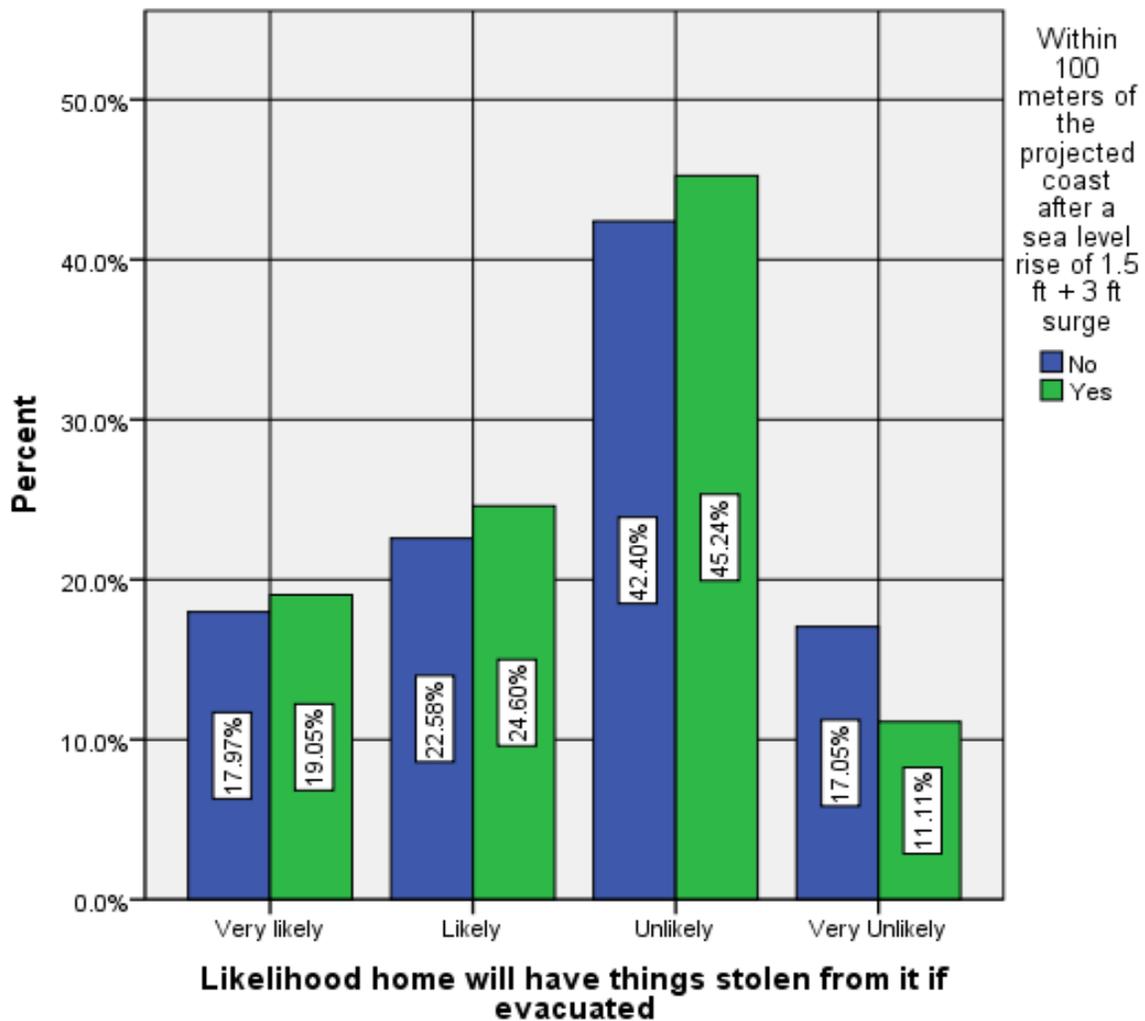
### Theft from Home .. by .. Within 100 Meters of the Projected SLR Coastline

Households were asked to report the likelihood, on a scale of very likely, likely, unlikely, or very unlikely that “their home will have things stolen from it if they evacuate.” These households are disaggregated based on whether or not they are located within 100 meters of the projected coastline after a sea level rise (SLR) of 1.5 feet. Within 100 meters of the projected SLR coastline the following approximate percent of households report the following levels of likelihood: 17 percent very likely, 30 percent likely, 44 percent unlikely, and more than 9 percent very unlikely. Not within 100 meters of the projected SLR coastline the following approximate percent of households report the following levels of likelihood: 19 percent very likely, 22 percent likely, 43 percent unlikely, and 16 percent very unlikely.



### Theft from Home .. by.. Within 100 Meters of the Projects SLR+Surge Coastline

Households were asked to report the likelihood, on a scale of very likely, likely, unlikely, or very unlikely that “their home will have things stolen from it if they evacuate.” These households are disaggregated based on whether or not they are located within 100 meters of the projected coastline after a sea level rise (SLR) of 1.5 feet and a storm surge of 3 feet. Within 100 meters of the projected SLR+Surge coastline the following approximate percent of households report the following levels of likelihood: 19 percent very likely, 25 percent likely, 45 percent unlikely, and more than 11 percent very unlikely. Not within 100 meters of the projected SLR+Surge coastline the following approximate percent of households report the following levels of likelihood: 18 percent very likely, 23 percent likely, 42 percent unlikely, and 17 percent very unlikely.

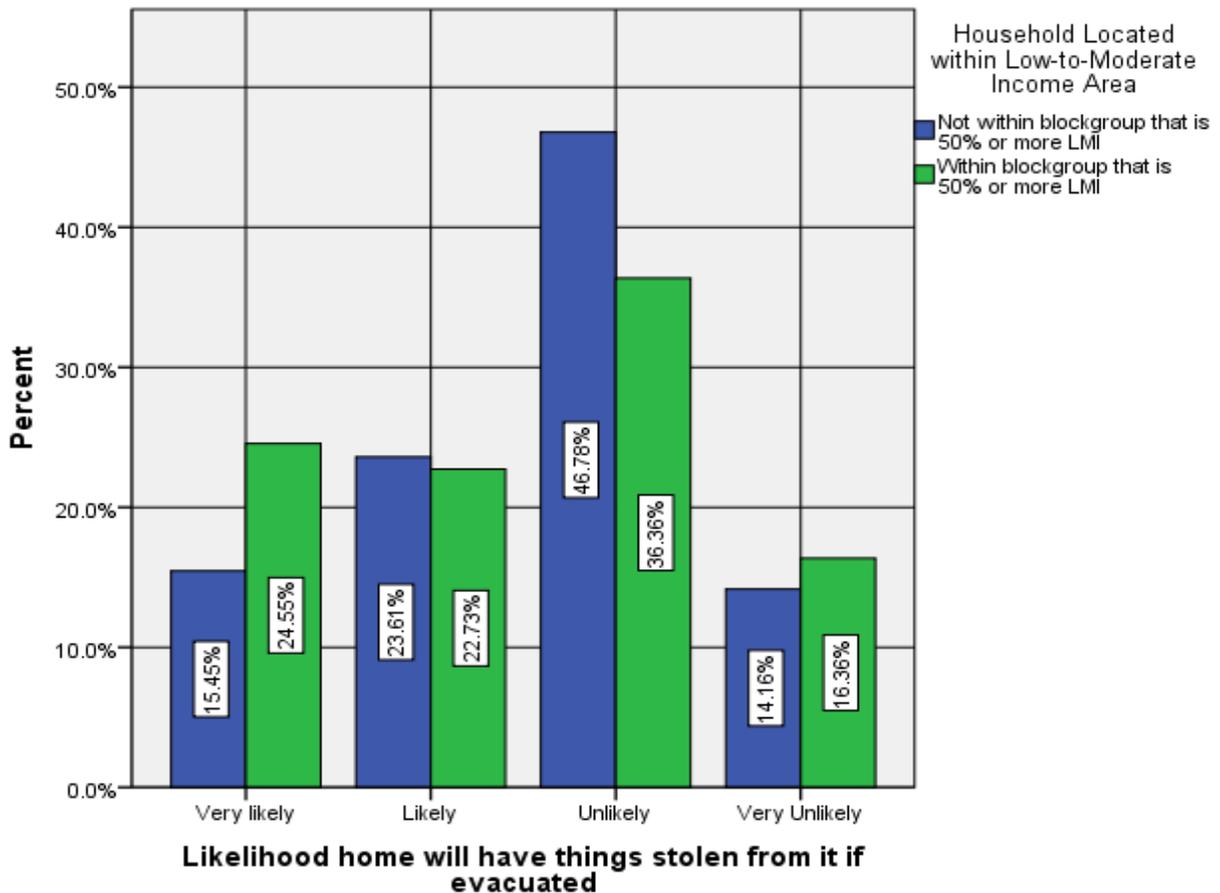


### Theft from Home .. by .. LMI Area

Households were asked to report the likelihood, on a scale of very likely, likely, unlikely, or very unlikely that “their home will have things stolen from it if they evacuate.” These households are disaggregated based on whether or not they are located within a low-to-moderate income block group.

Within a low-to-moderate income block group the following approximate percent of households report the following levels of likelihood: 25 percent very likely, 23 percent likely, 36 percent unlikely, and more than 16 percent very unlikely.

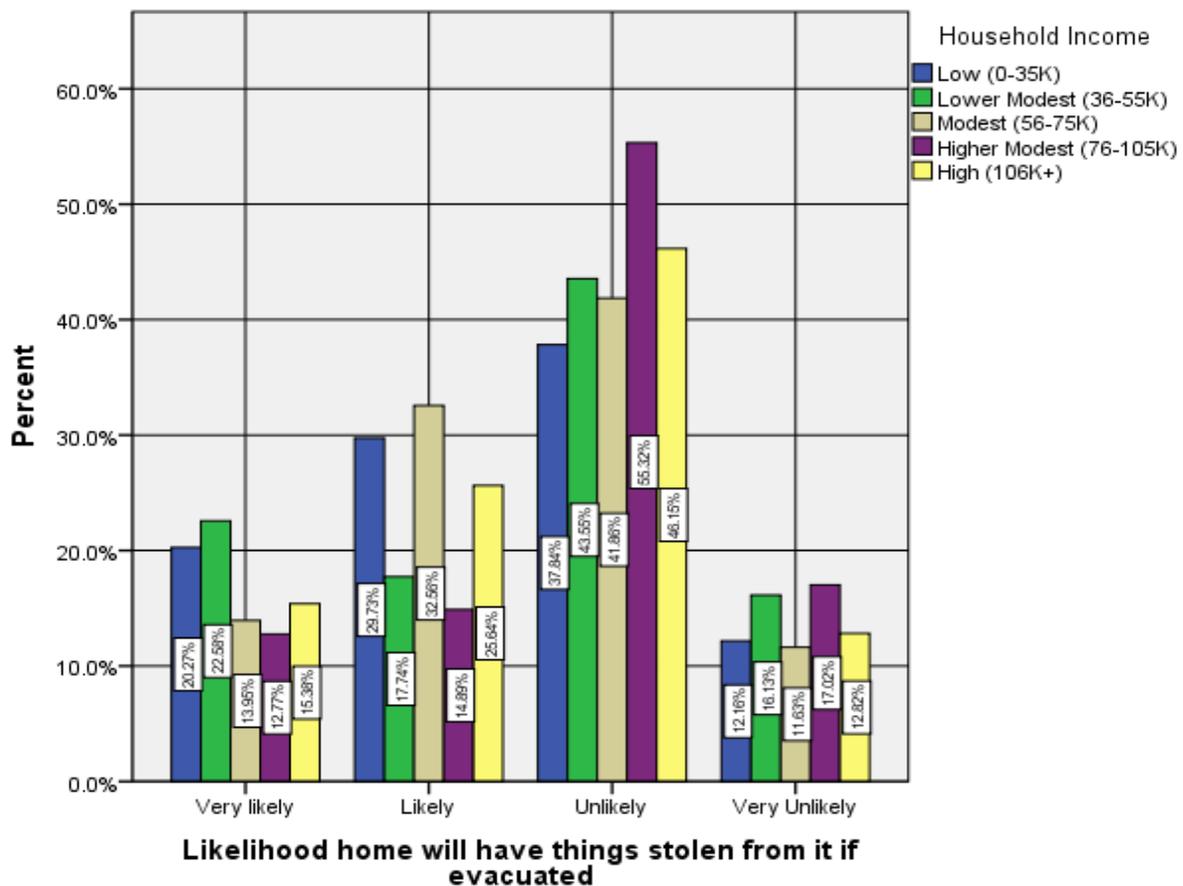
Not within a low-to-moderate income block group the following approximate percent of households report the following levels of likelihood: 15 percent very likely, 24 percent likely, 47 percent unlikely, and 14 percent very unlikely.



## Theft from Home .. by .. Income

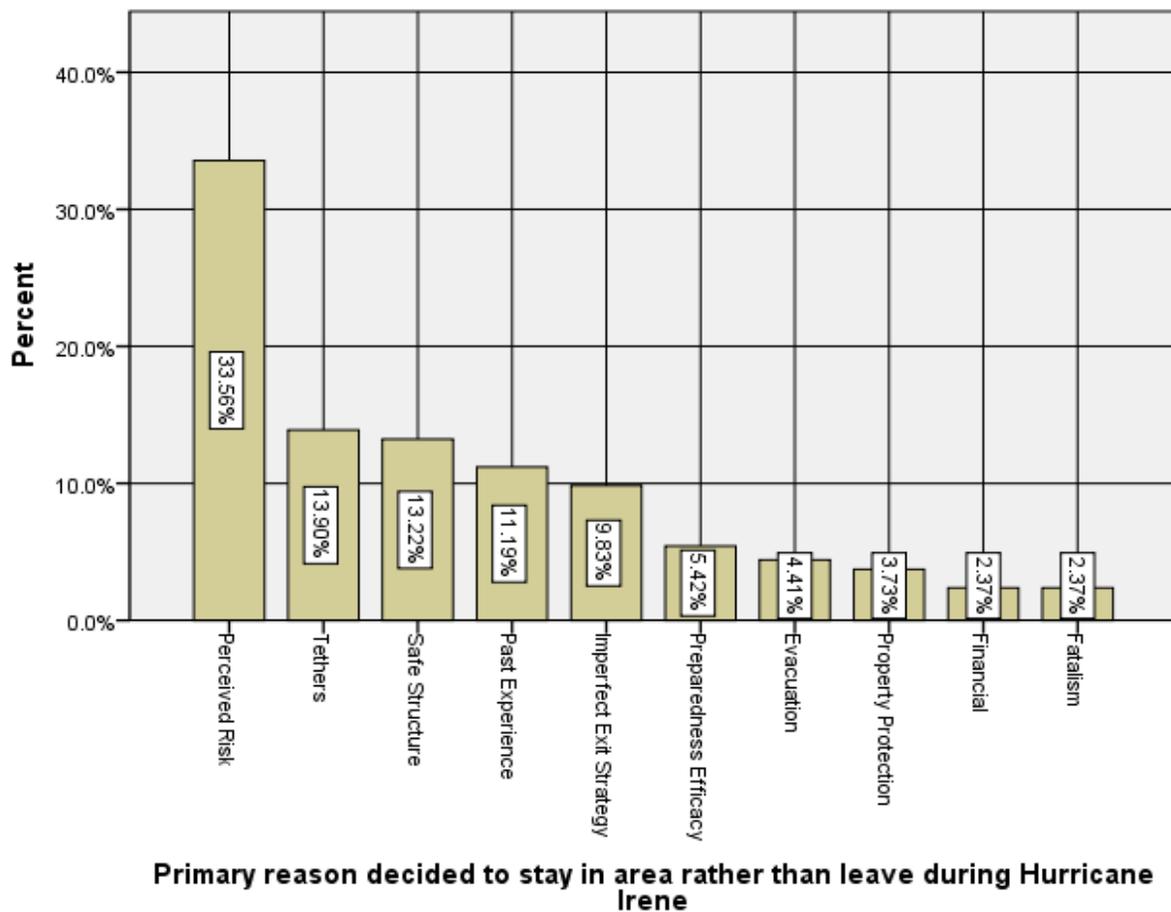
Households were asked to report the likelihood, on a scale of very likely, likely, unlikely, or very unlikely that “their home will have things stolen from it if they evacuate.” These households are disaggregated by household annual income. The following approximate percent of households report the following level of agreement with the statement:

- Low: 20 percent very likely, 30 percent likely, 38 percent unlikely, and 12 percent very unlikely.
- Lower Modest: 22 percent very likely, 18 percent likely, 44 percent unlikely, and 16 percent very unlikely.
- Modest: 14 percent very likely, 33 percent likely, 42 percent unlikely, and more than 11 percent very unlikely.
- Higher Modest: 13 percent very likely, 15 percent likely, 55 percent unlikely, and 17 percent very unlikely.
- High: 15 percent very likely, 26 percent likely, 46 percent unlikely, and 13 percent very unlikely.



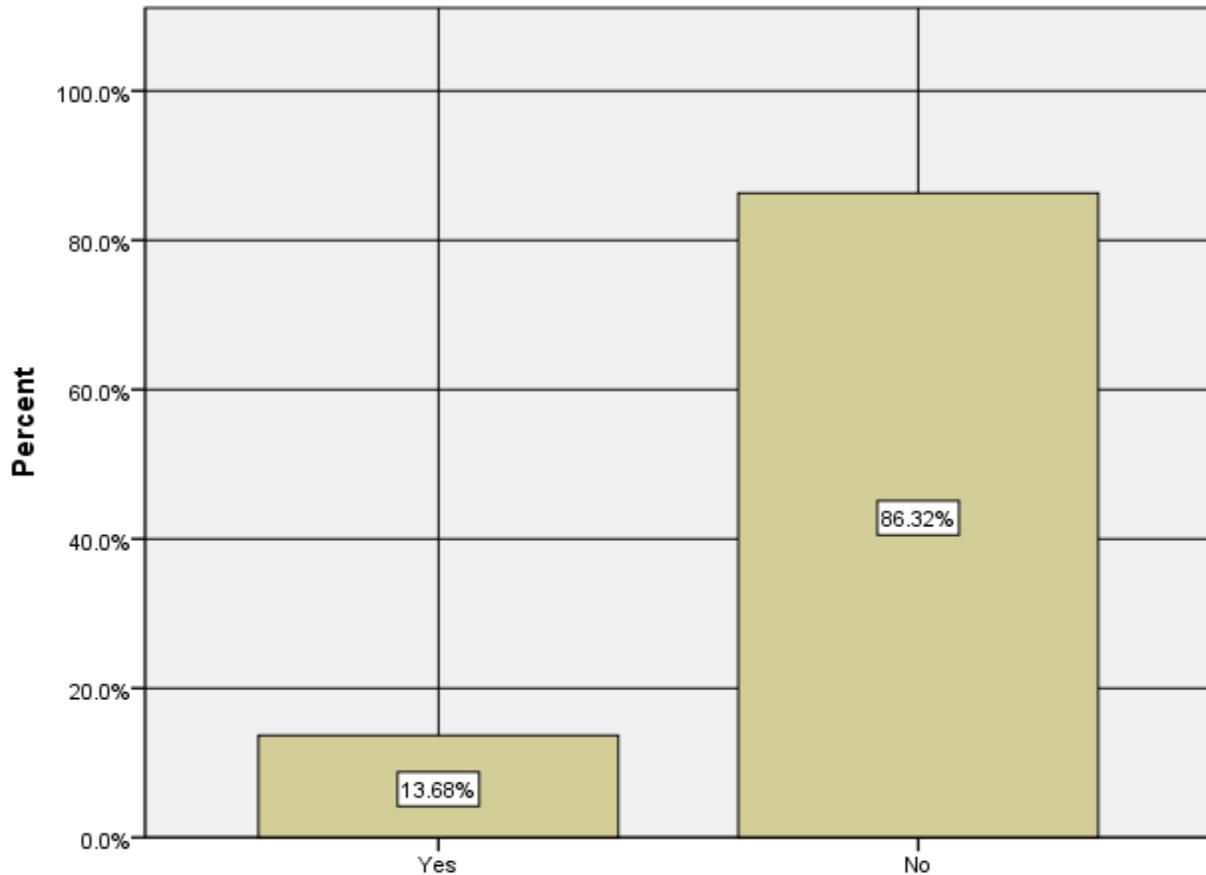
## Reason Decided to Stay Rather than Evacuate

Elicited from household respondents were some of the reasons why they decided to stay in Hampton Roads during Hurricane Irene rather than leave the area. Although households may have stayed for several reasons, the primary reason for each household was identified. Among respondents with a primary reason, ten common themes were identified along with an “other” category for those responses that did not fit within these ten themes. In addition, the rates for refuse and don’t know are included. Nearly one in three households state they did not depart the region because the perceived risk of the impending storm did not justify the disruption associated with a departure. Nearly 14 percent state that the household was tethered to the region due to an obligation such as then stemming from employment or care to be provided others. Nearly 13 percent state that the sheltering structure, such as their primary residence, would be able to manage the stress of the storm. Nearly 11 percent state that past experiences with perceived other similar severe storm events indicated to them that departure from the region is unnecessary.



### Stayed to Take Care of Somebody Else

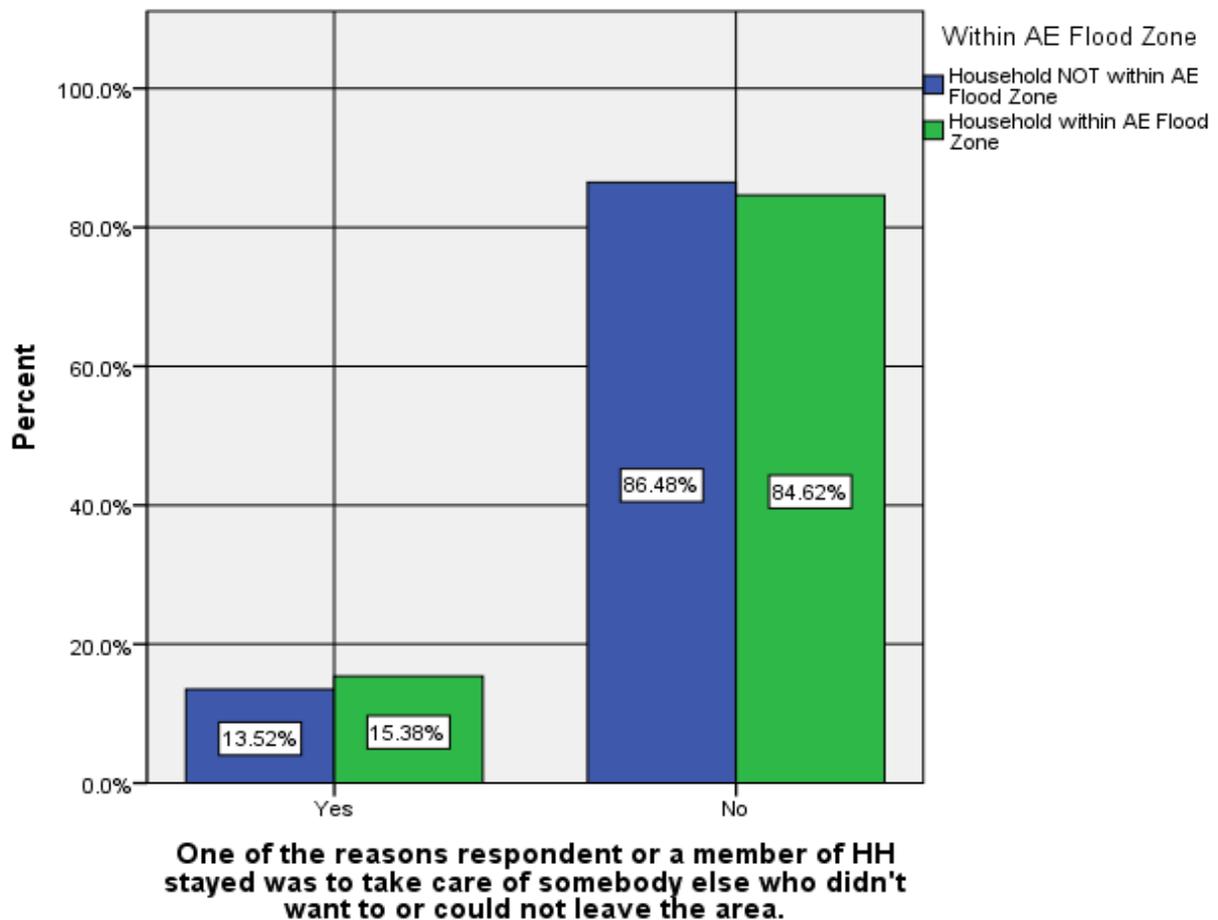
Households were asked if any household member stayed in the area (rather than evacuate) during Hurricane Irene specifically to take care of someone else who didn't want to or couldn't leave the area. Approximately 14 percent of the households report that taking care of this other person was a reason for not departing the region.



**One of the reasons respondent or a member of HH stayed was to take care of somebody else who didn't want to or could not leave the area.**

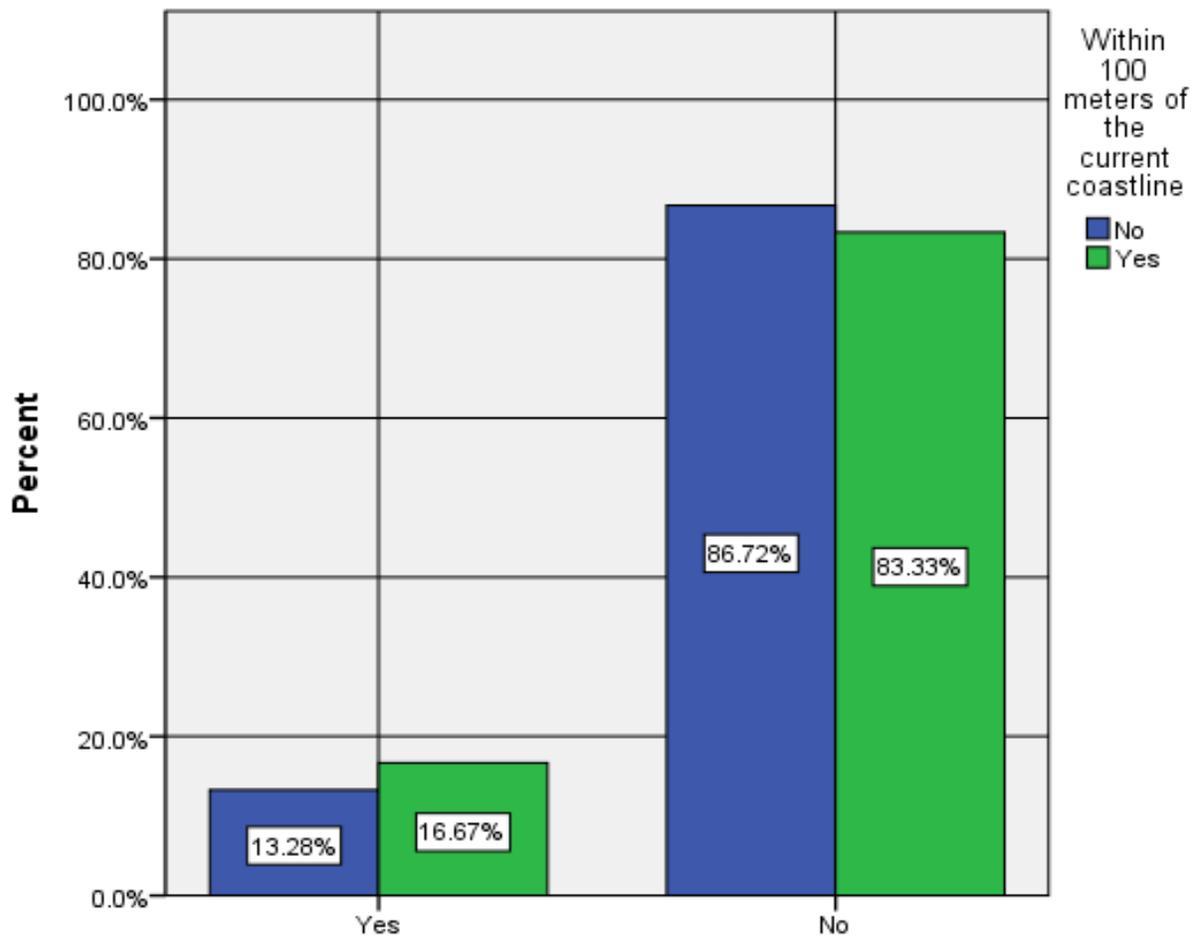
### Stayed to Take Care of Somebody Else .. by .. AE Flood Zone

Households were asked if any household member stayed in the area (rather than evacuate) during Hurricane Irene specifically to take care of someone else who didn't want to or couldn't leave the area. These households are disaggregated by whether or not they are located within an AE flood zone. For those households located within the flood zone, about 15 percent report that a household member stayed to take care of someone else, while approximately 85 percent report no household member staying for that reason. For those households not located within the flood zone, about 14 percent report that a household member stayed to take care of someone else, while approximately 86 percent report no household member staying for that reason.



### Stayed to Take Care of Somebody Else .. by .. Within 100m of the Current Coastline

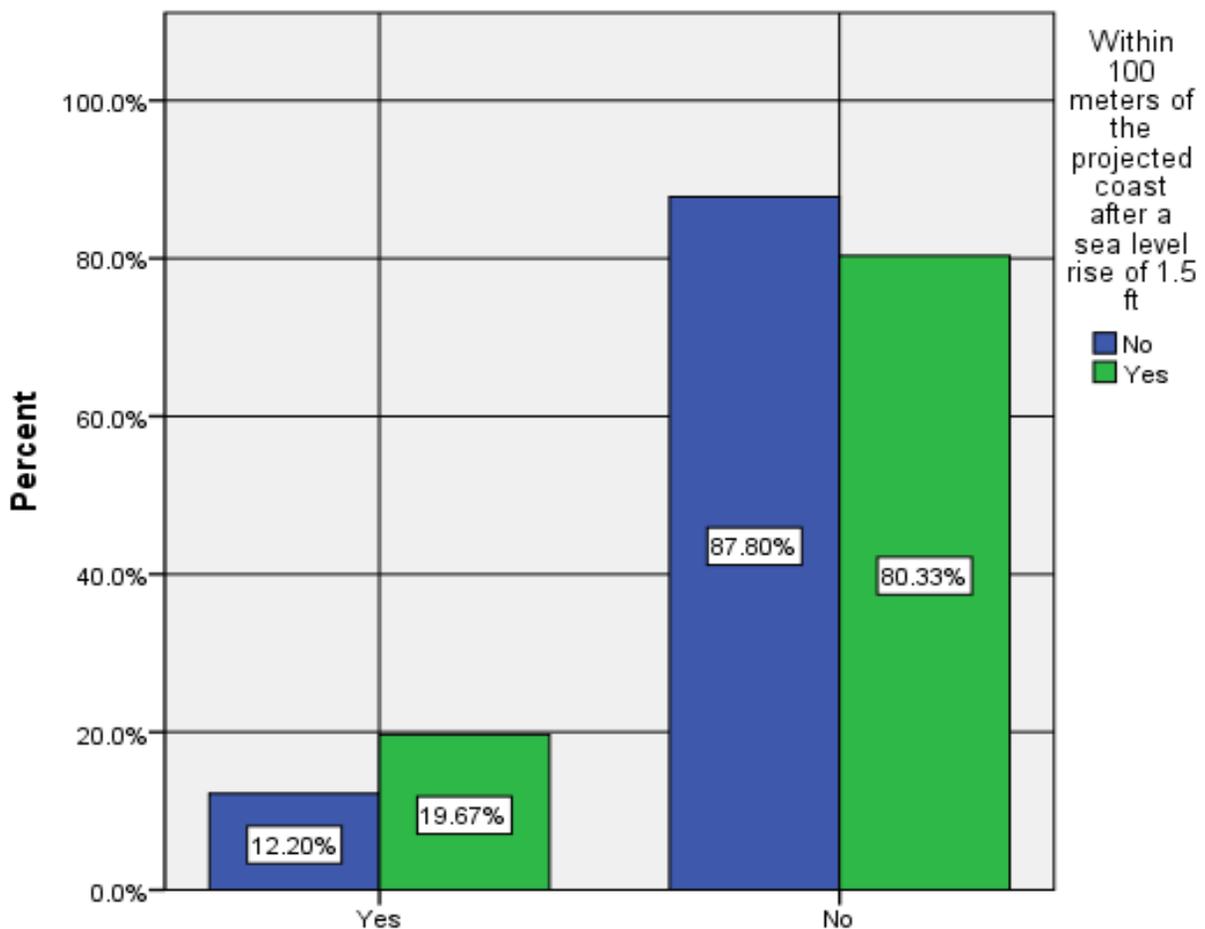
Households were asked if any household member stayed in the area (rather than evacuate) during Hurricane Irene specifically to take care of someone else who didn't want to or couldn't leave the area. These households are disaggregated by whether or not they are located within 100 meters of the current coastline. For those households located within 100 meters of the current coastline, about 17 percent report that a household member stayed to take care of someone else, while approximately 83 percent report no household member staying for that reason. For those households not located within 100 meters of the current coastline, about 13 percent report that a household member stayed to take care of someone else, while approximately 87 percent report no household member staying for that reason.



**One of the reasons respondent or a member of HH stayed was to take care of somebody else who didn't want to or could not leave the area.**

### Stayed to Take Care of Somebody Else .. by .. Within 100m of the Projected SLR Coastline

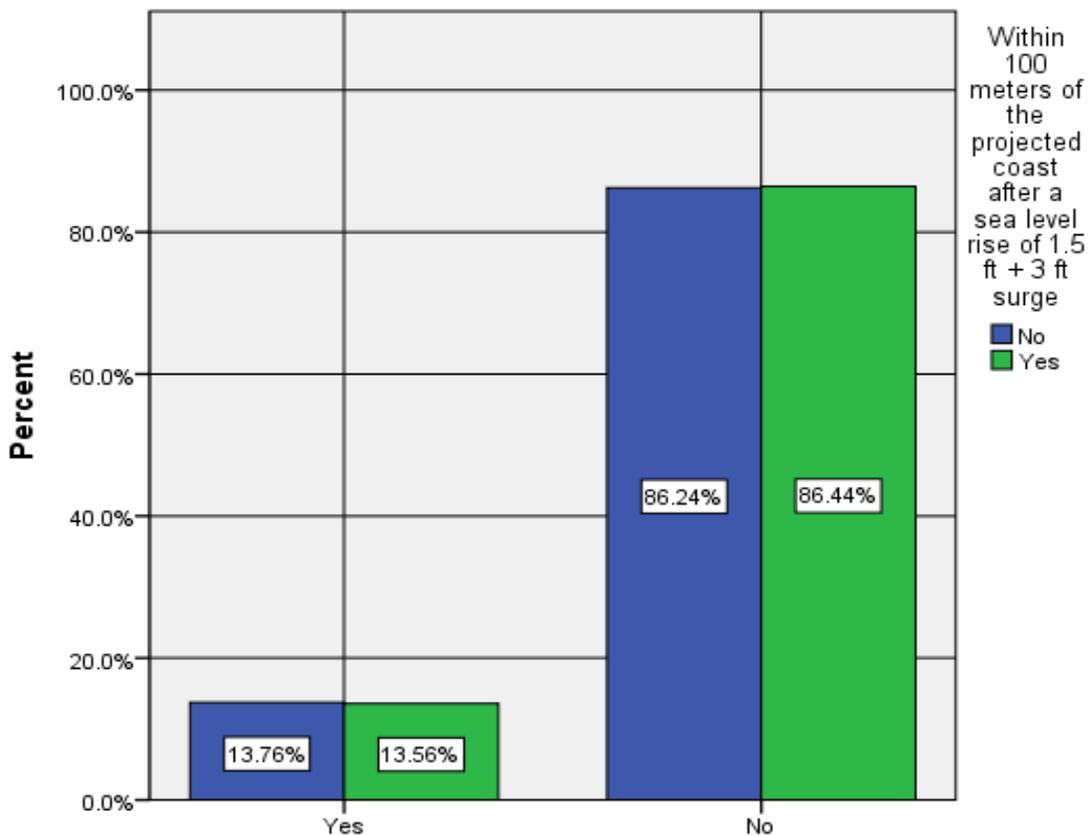
Households were asked if any household member stayed in the area (rather than evacuate) during Hurricane Irene specifically to take care of someone else who didn't want to or couldn't leave the area. These households are disaggregated by whether or not they are located within 100 meters of the projected coastline after a sea level rise (SLR) of 1.5 feet. For those households located within 100 meters of the projected SLR coastline, about 20 percent report that a household member stayed to take care of someone else, while approximately 80 percent report no household member staying for that reason. For those households not located within 100 meters of the projected SLR coastline, about 12 percent report that a household member stayed to take care of someone else, while approximately 88 percent report no household member staying for that reason.



**One of the reasons respondent or a member of HH stayed was to take care of somebody else who didn't want to or could not leave the area.**

### Stayed to Take Care of Somebody Else .. by.. Within 100m of the Projects SLR+Surge Coastline

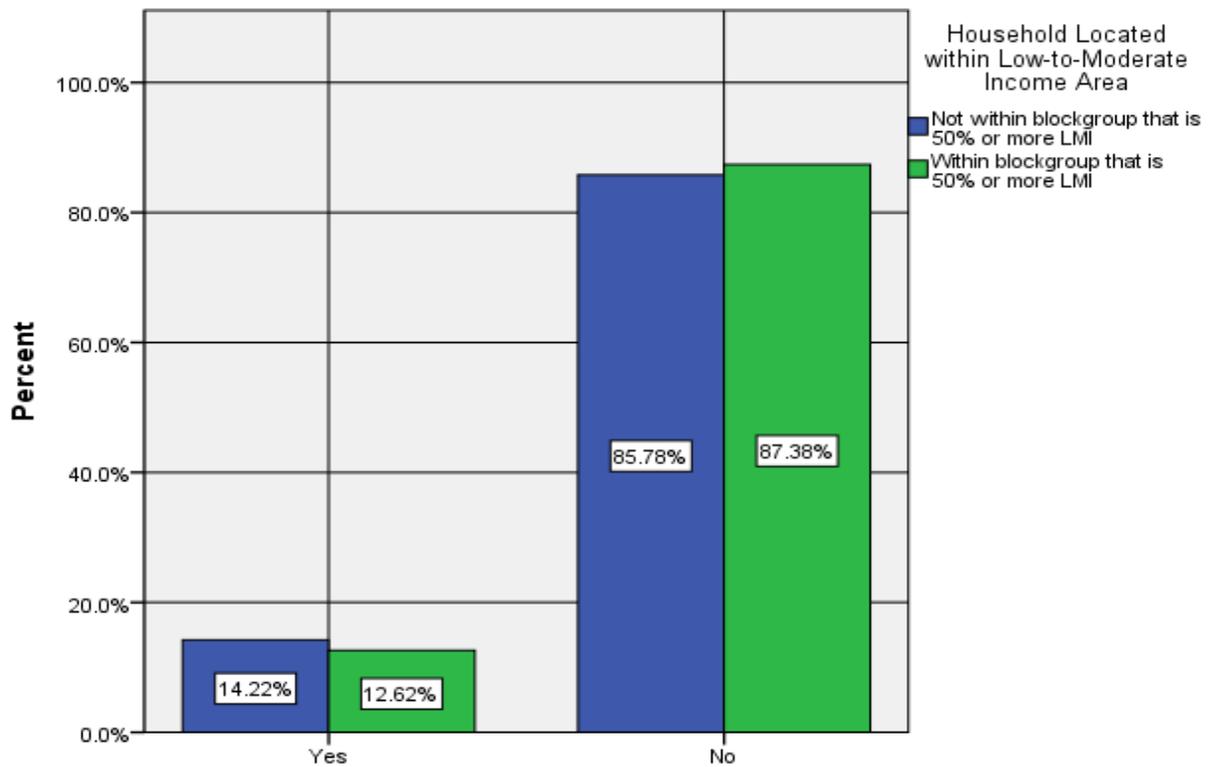
Households were asked if any household member stayed in the area (rather than evacuate) during Hurricane Irene specifically to take care of someone else who didn't want to or couldn't leave the area. These households are disaggregated by whether or not they are located within 100 meters of the projected coastline after a sea level rise (SLR) of 1.5 feet and a storm surge of 3 feet. For those households located within 100 meters of the projected SLR+Surge coastline, about 14 percent report that a household member stayed to take care of someone else, while approximately 86 percent report no household member staying for that reason. For those households not located within 100 meters of the projected SLR+Surge coastline, about 14 percent report that a household member stayed to take care of someone else, while approximately 86 percent report no household member staying for that reason.



**One of the reasons respondent or a member of HH stayed was to take care of somebody else who didn't want to or could not leave the area.**

### Stayed to Take Care of Somebody Else .. by .. LMI Area

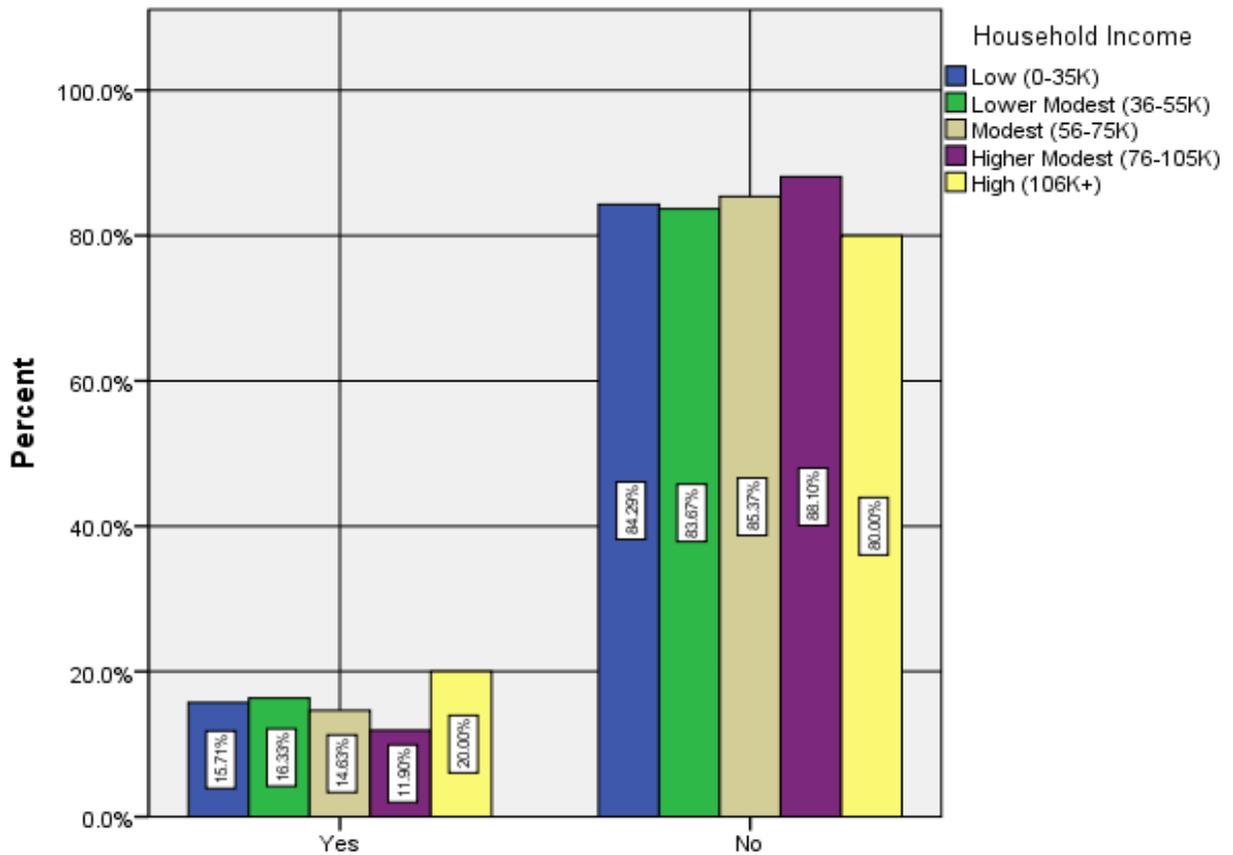
Households were asked if any household member stayed in the area (rather than evacuate) during Hurricane Irene specifically to take care of someone else who didn't want to or couldn't leave the area. These households are disaggregated by whether or not they are located within a low-to-moderate income block group. For those households located within a low-to-moderate income block group, about 13 percent report that a household member stayed to take care of someone else, while approximately 87 percent report no household member staying for that reason. For those households not located within a low-to-moderate income block group, about 14 percent report that a household member stayed to take care of someone else, while approximately 86 percent report no household member staying for that reason.



**One of the reasons respondent or a member of HH stayed was to take care of somebody else who didn't want to or could not leave the area.**

### Stayed to Take Care of Somebody Else .. by .. Income

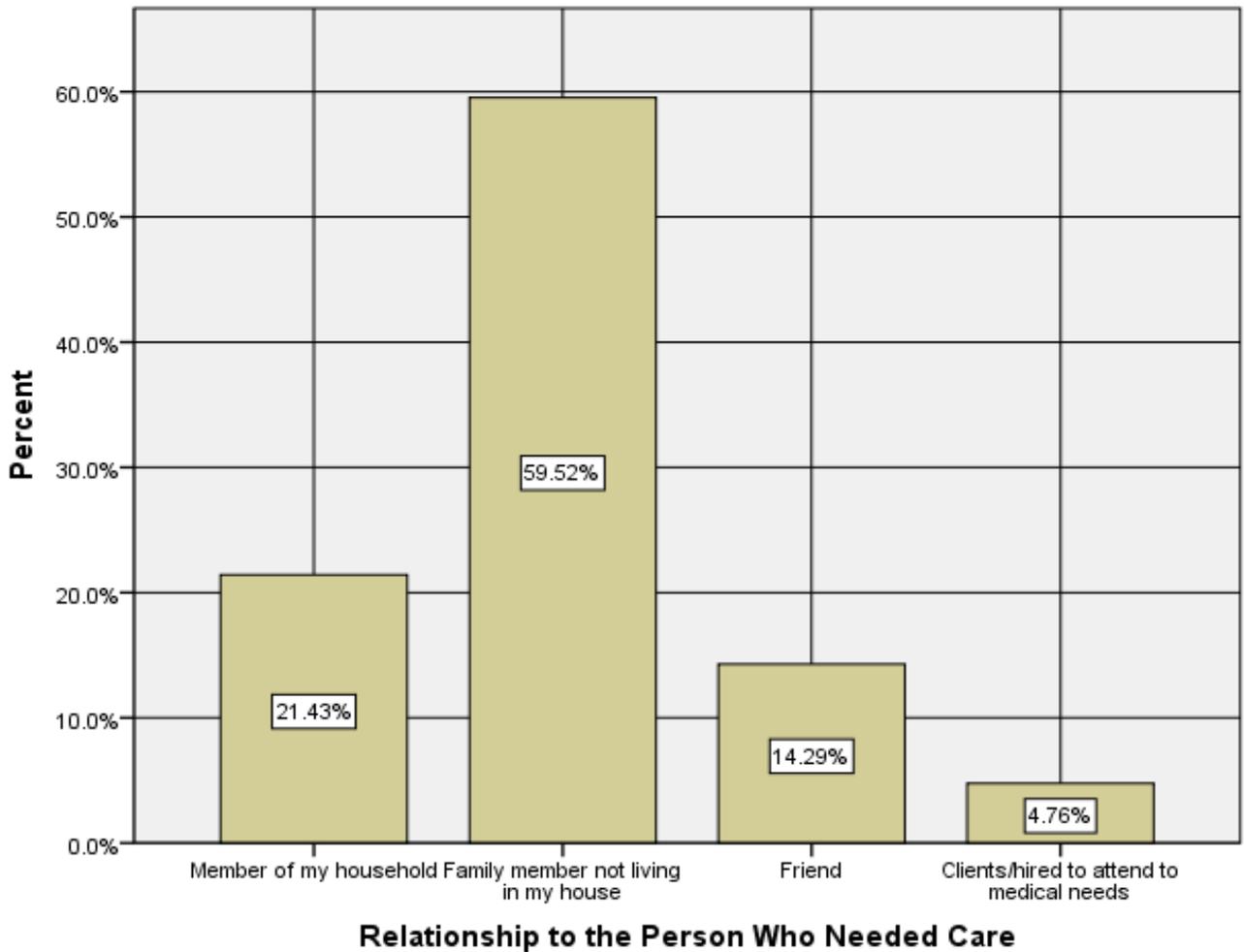
Households were asked if any household member stayed in the area (rather than evacuate) during Hurricane Irene specifically to take care of someone else who didn't want to or couldn't leave the area. These households are disaggregated by household annual income. The following approximate percent of households report a household member staying to take care of someone else: 16 percent low, 16 percent lower modest, 15 percent modest, 12 percent higher modest, and 20 percent high.



**One of the reasons respondent or a member of HH stayed was to take care of somebody else who didn't want to or could not leave the area.**

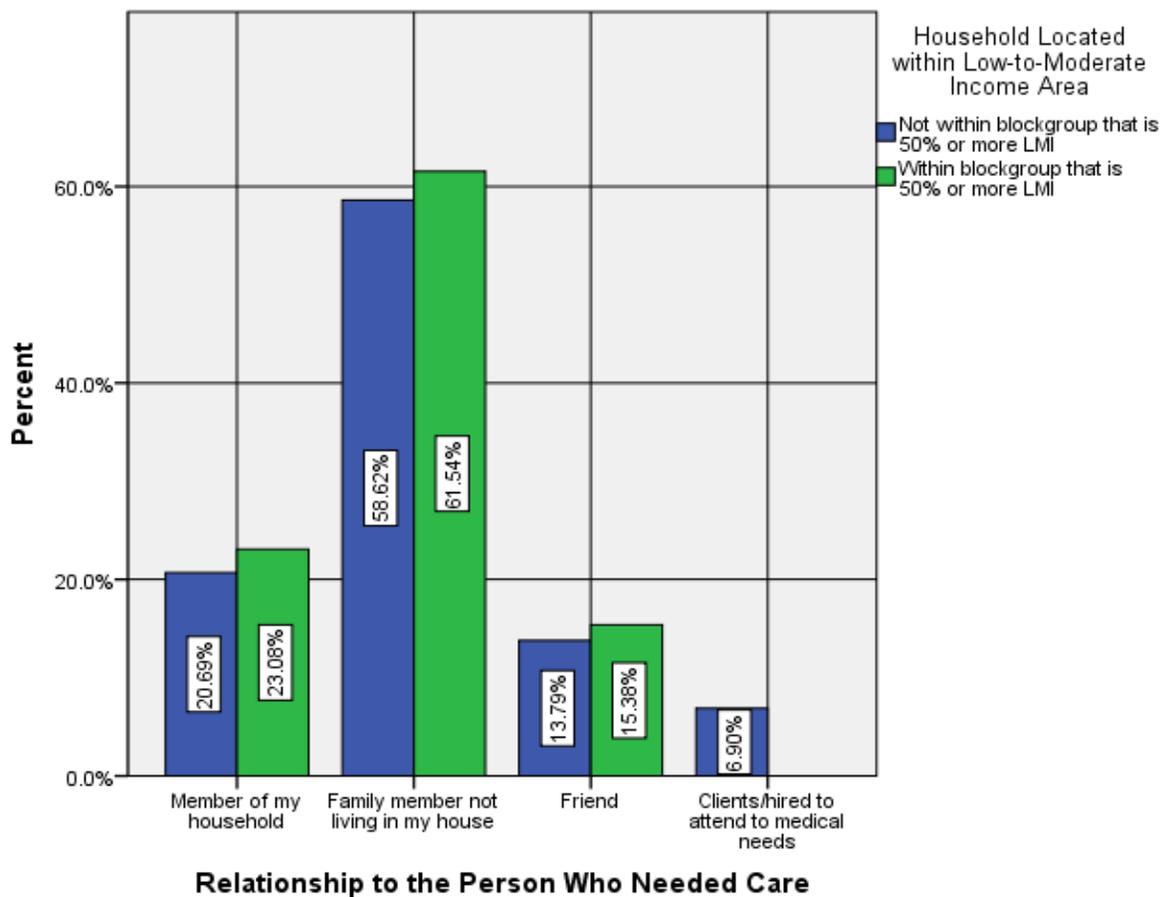
## Relationship to the Person Who Needed Care

Households were asked if any household member stayed in the area (rather than evacuate) during Hurricane Irene specifically to take care of someone else who didn't want to or couldn't leave the area. Among those who stayed due to such care-arrangements, respondents were further queried about the relationship to that person who needed the care. Nearly 60 percent are family members, but not living immediately in the same home, while over 21 percent were family members within the same household. Just over 14 percent are friends not living in the household and nearly 5 percent are clients who have hired them to attend to medical needs.



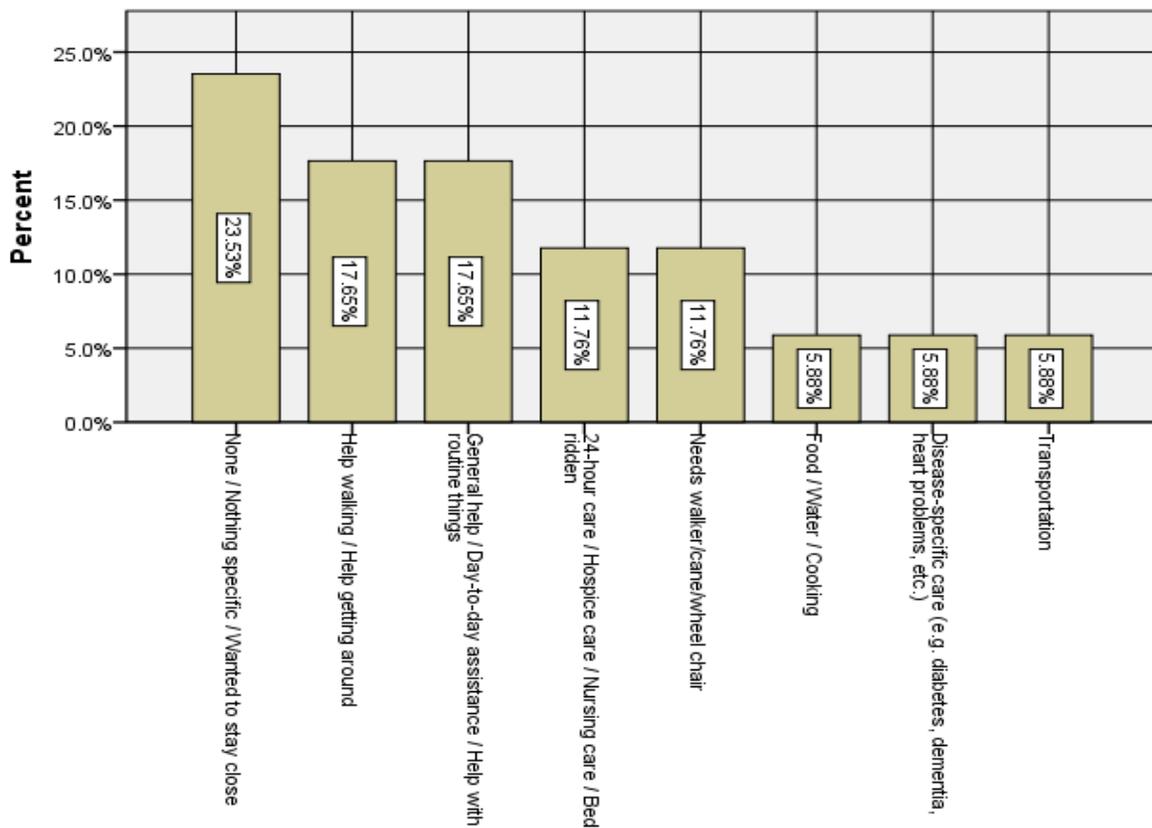
### Relationship to the Person Who Needed Care .. by .. LMI Area

Households were asked if any household member stayed in the area (rather than evacuate) during Hurricane Irene specifically to take care of someone else who didn't want to or couldn't leave the area. Among those who stayed due to such care-arrangement, respondents were queried about the relationship to that person who needed the care. These households are disaggregated by whether or not they are located within a low-to-moderate income block group. Within a low-to-moderate income block group the following approximate percent of households report the following household member relationship to a person that needed care: 23 percent member of household, 62 percent non-household family member, 15 percent friend, 0 percent hired by a client to attend medical needs. Not within a low-to-moderate income block group the following approximate percent of households report the following household member relationship to a person that needed care: 21 percent member of household, 59 percent non-household family member, 14 percent friend, more than 6 percent hired by a client to attend medical needs.



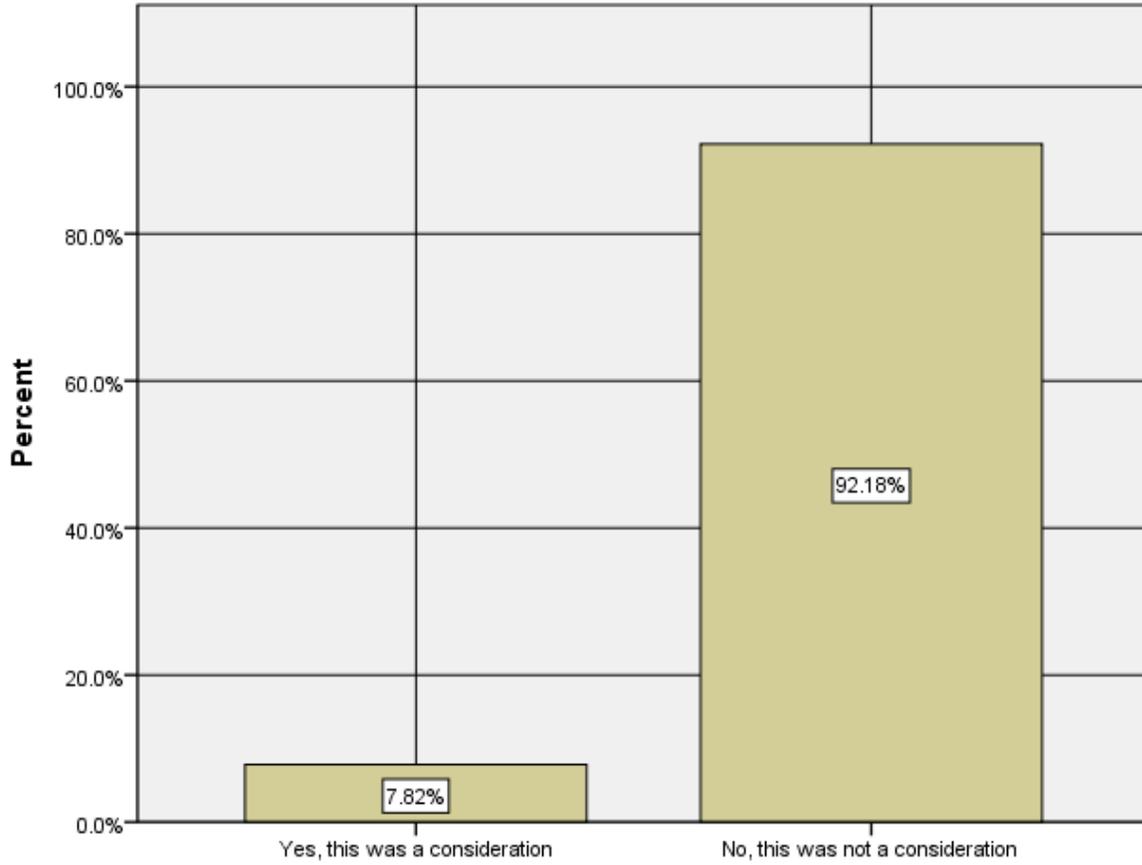
## Type of Help or Care a Person Needed

Households were asked if any household member stayed in the area (rather than evacuate) during Hurricane Irene specifically to take care of someone else who didn't want to or couldn't leave the area. Reported above in an earlier chart are the percent of households that have a member who stated that one of the reasons they stayed was to take care of someone else (13.8 percent). Respondents were further asked to describe the kind of care or help that person needed. Although the respondent could have mentioned several types of care or help, the primary type of care or help was identified. The eight most frequently mentioned types of care or help are illustrated below.



### Stayed to be Near Familiar Physician

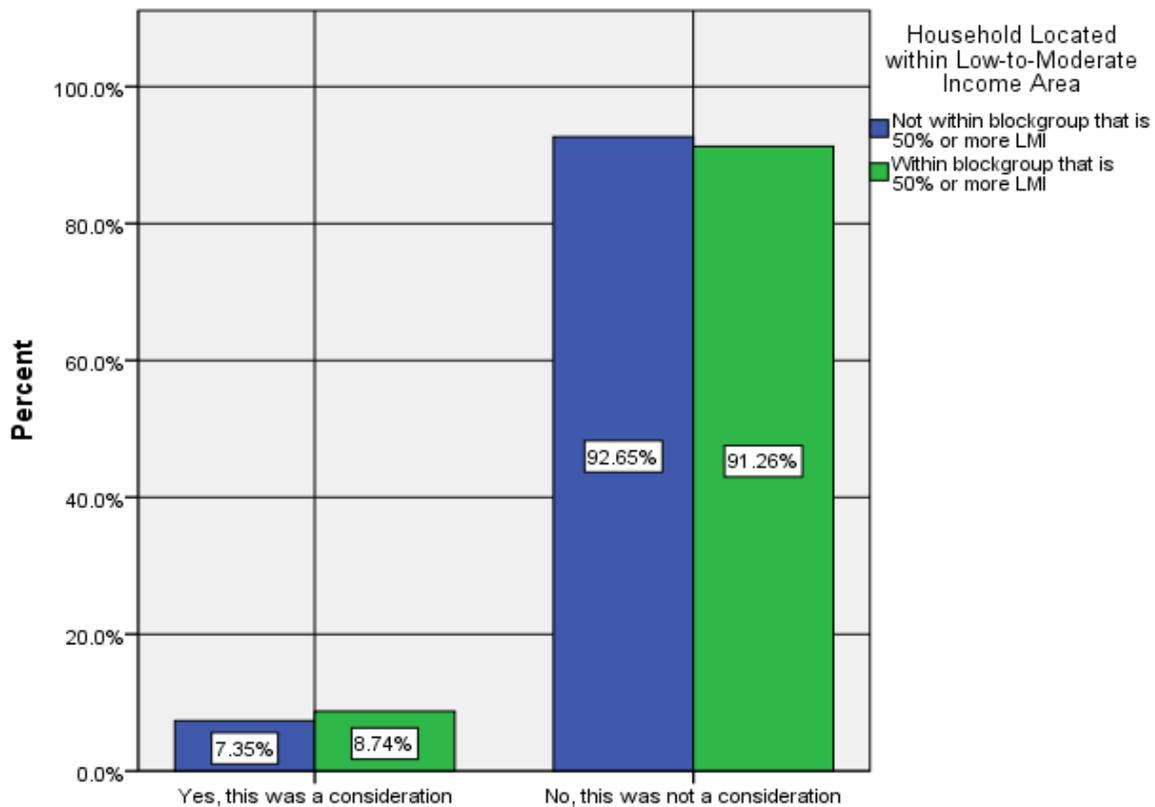
Households were asked if any household member stayed in the region (rather than evacuate) for Hurricane Irene in part to be close to a personal physician. Approximately 8 percent of households report having a member who stayed in part to be close to a personal physician.



**One of the reasons respondent or a member of HH stayed was to be close to a personal physician.**

### Stayed to be Near Familiar Physician .. by .. LMI Area

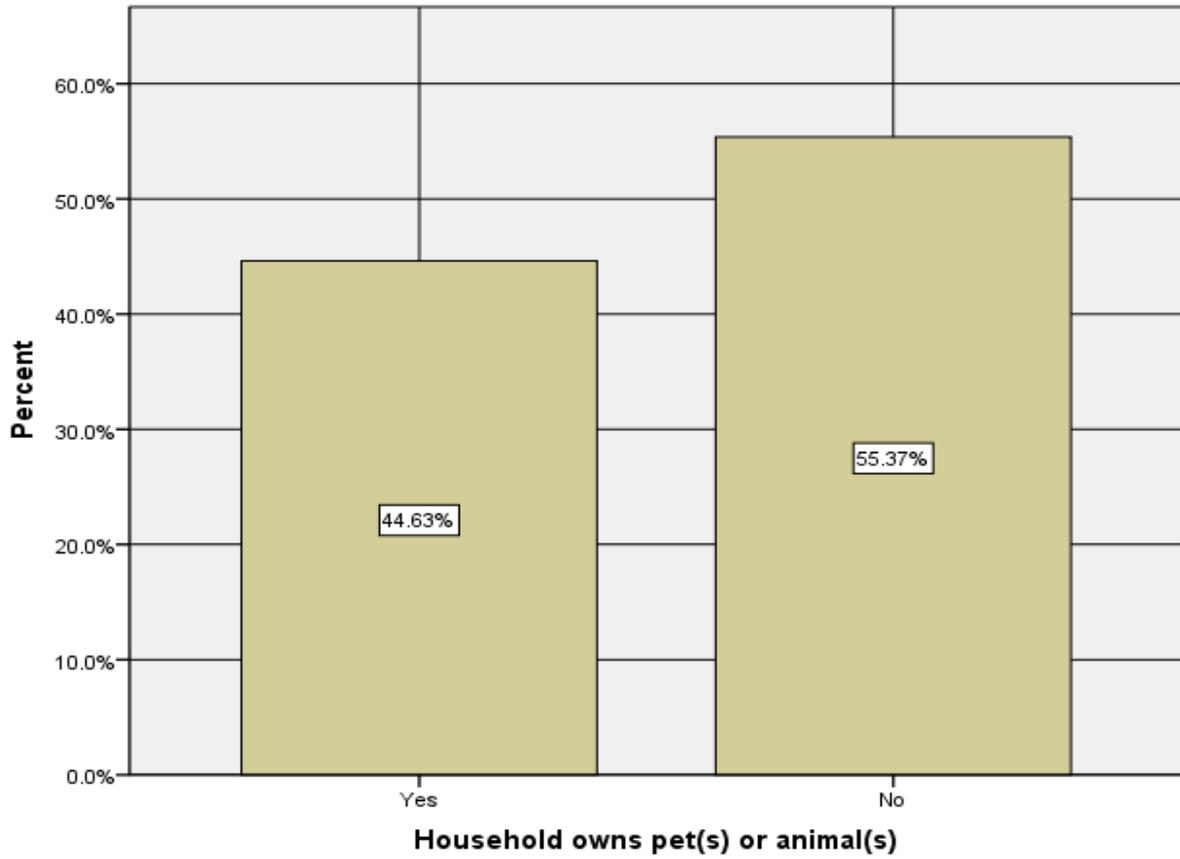
Households were asked if any household member stayed in the region (rather than evacuate) for Hurricane Irene in part to be close to a personal physician. These households are disaggregated by whether or not they are located within a low-to-moderate income block group. For those households located within a low-to-moderate income block group, about 9 percent report that a household member stayed to be close to a personal physician, while approximately 91 percent report no household member staying for that reason. For those households not located within a low-to-moderate income block group, about 7 percent report that a household member stayed to be close to a personal physician, while approximately 93 percent report no household member staying for that reason.



**One of the reasons respondent or a member of HH stayed was to be close to a personal physician.**

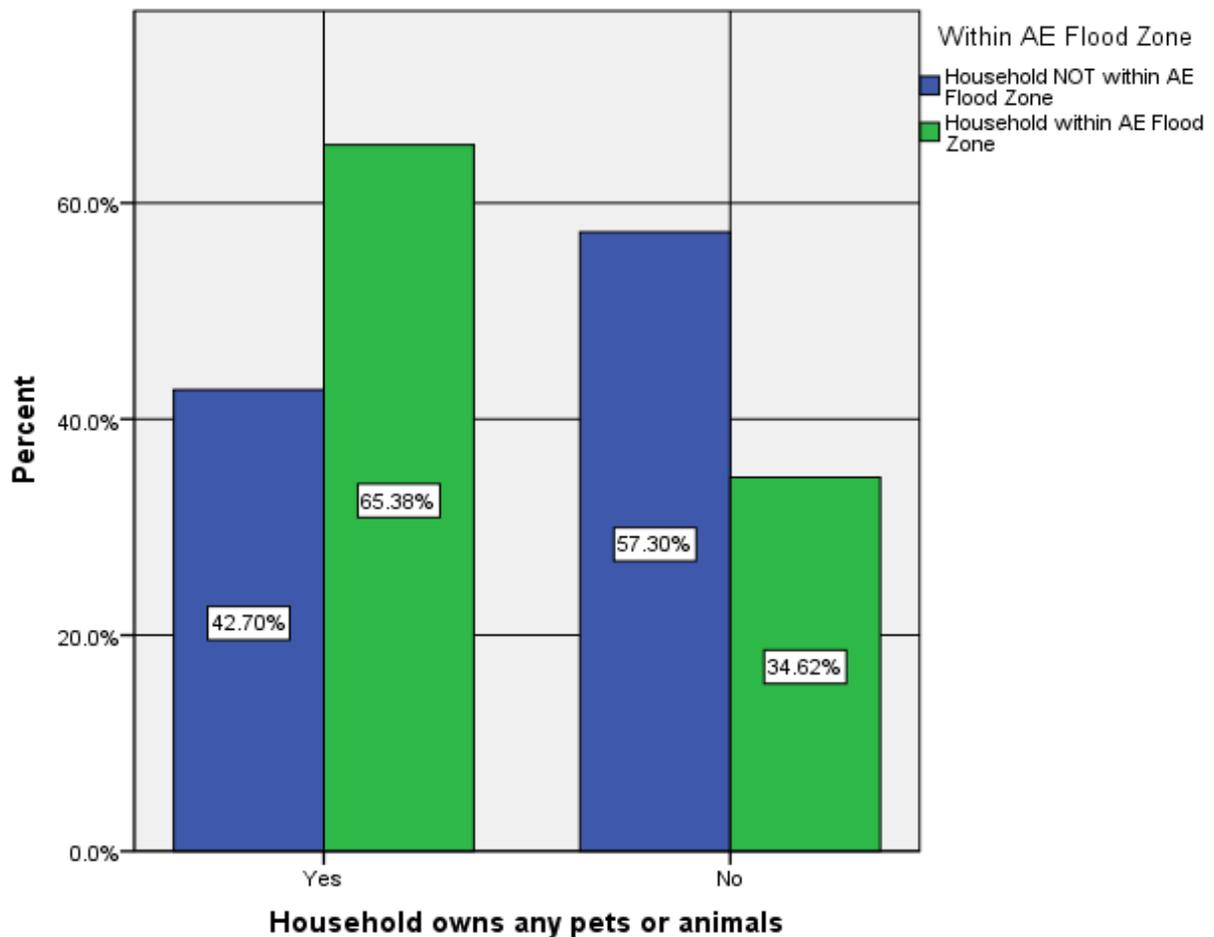
### Household Owns Pet or Animal

Households were asked if they owned any pets or animals. Nearly 45 percent of households report owning a pet or animal.



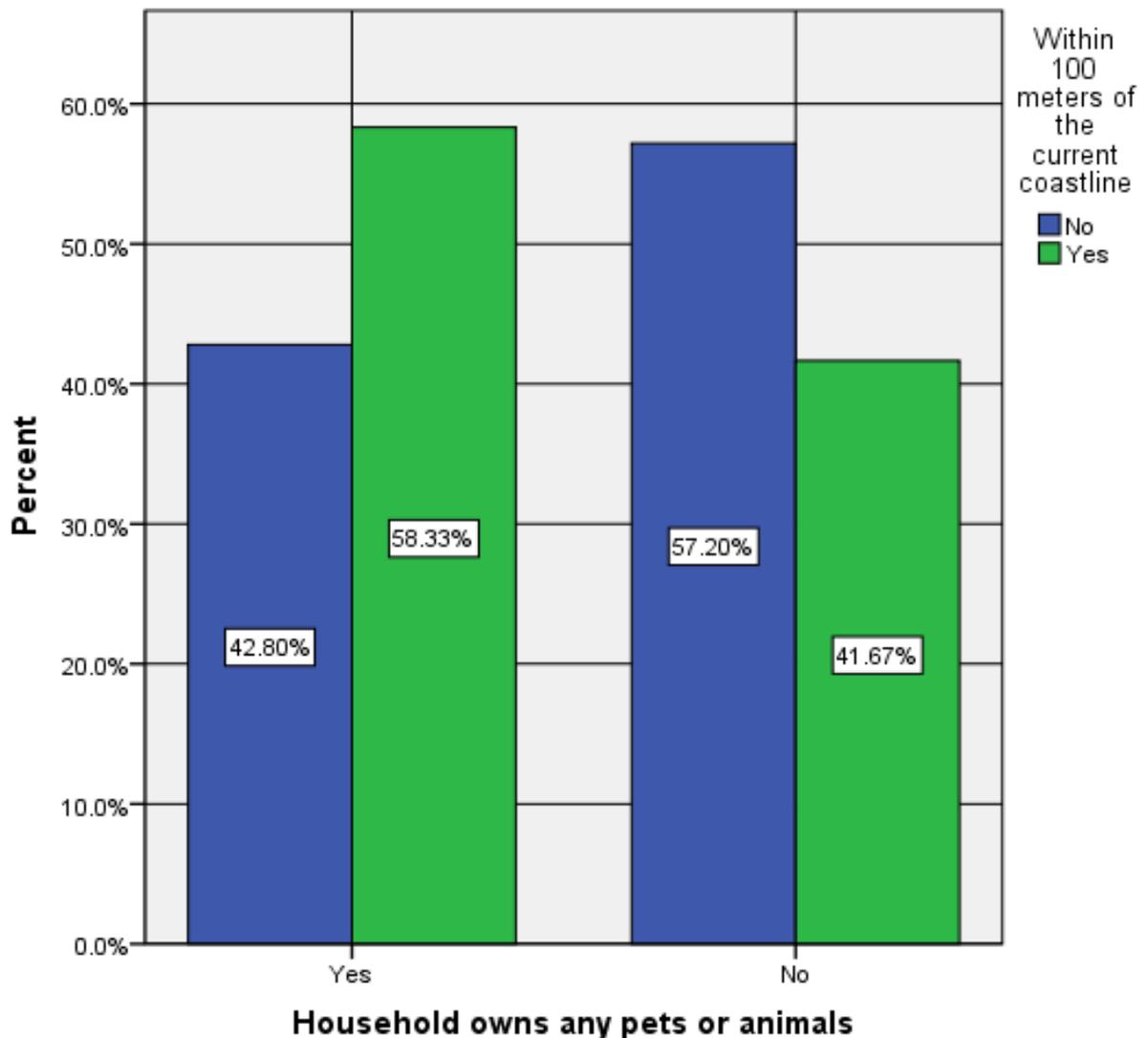
### Household Owns Pets or Animals .. by .. AE Flood Zone

Households owning pets or animals were asked owing this pet or animal was one of the reasons that the household did not leave the region in anticipation of Hurricane Irene. These households are disaggregated based on whether or not they are located within an AE flood zone. For those households located within the flood zone, about 65 percent report that they own pets or animals, while nearly 35 percent report that they don't own pets or animals. For those households not located within the flood zone, nearly 43 percent report that they own pets or animals and about 57 percent report that they don't own pets or animals.



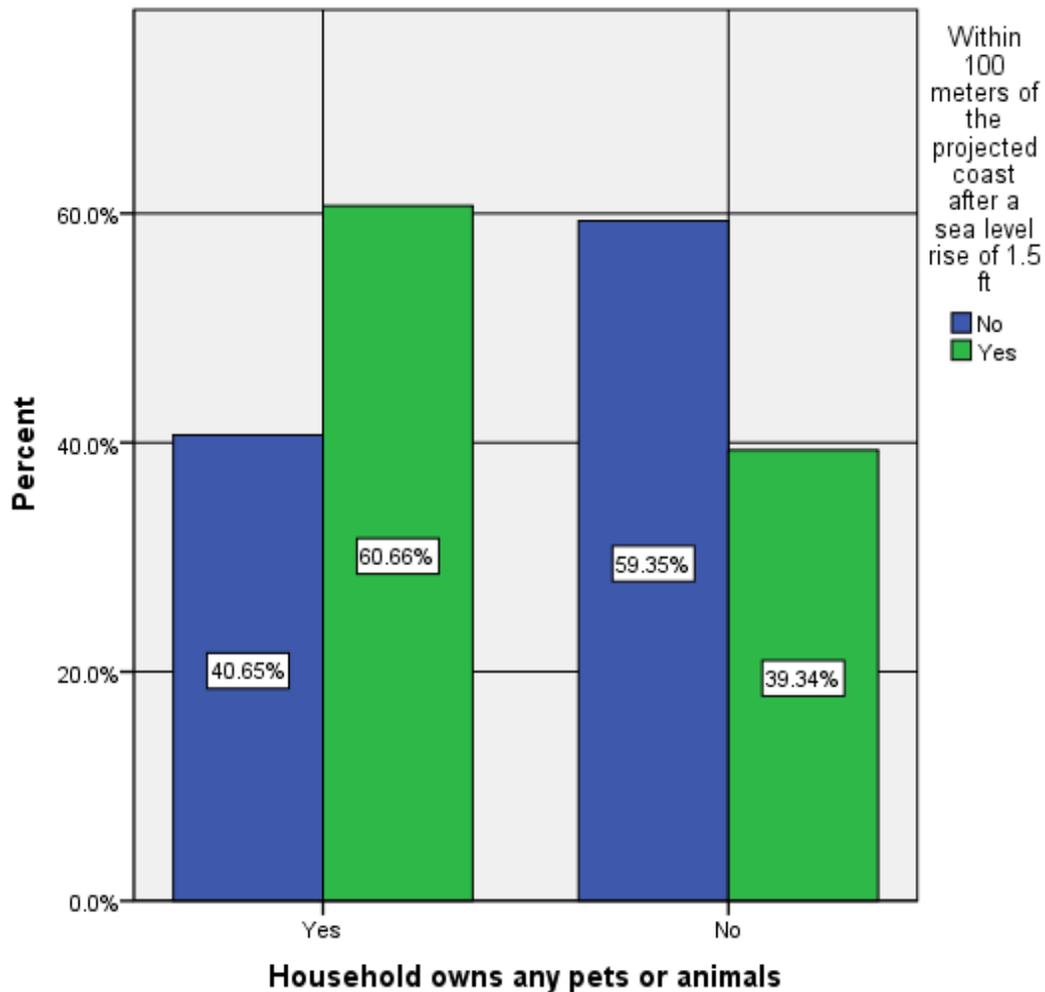
### Household Owns Pets or Animals .. by .. Within 100 Meters of the Current Coastline

Households were asked if they own any pets or animals. These households are disaggregated based on whether or not they are located within 100 meters of the current coastline. For those households located within 100 meters of the current coastline, about 58 percent report that they own pets or animals, while nearly 42 percent report that they don't own pets or animals. For those households not located within 100 meters of the current coastline, nearly 43 percent report that they own pets or animals and about 57 percent report that they don't own pets or animals.



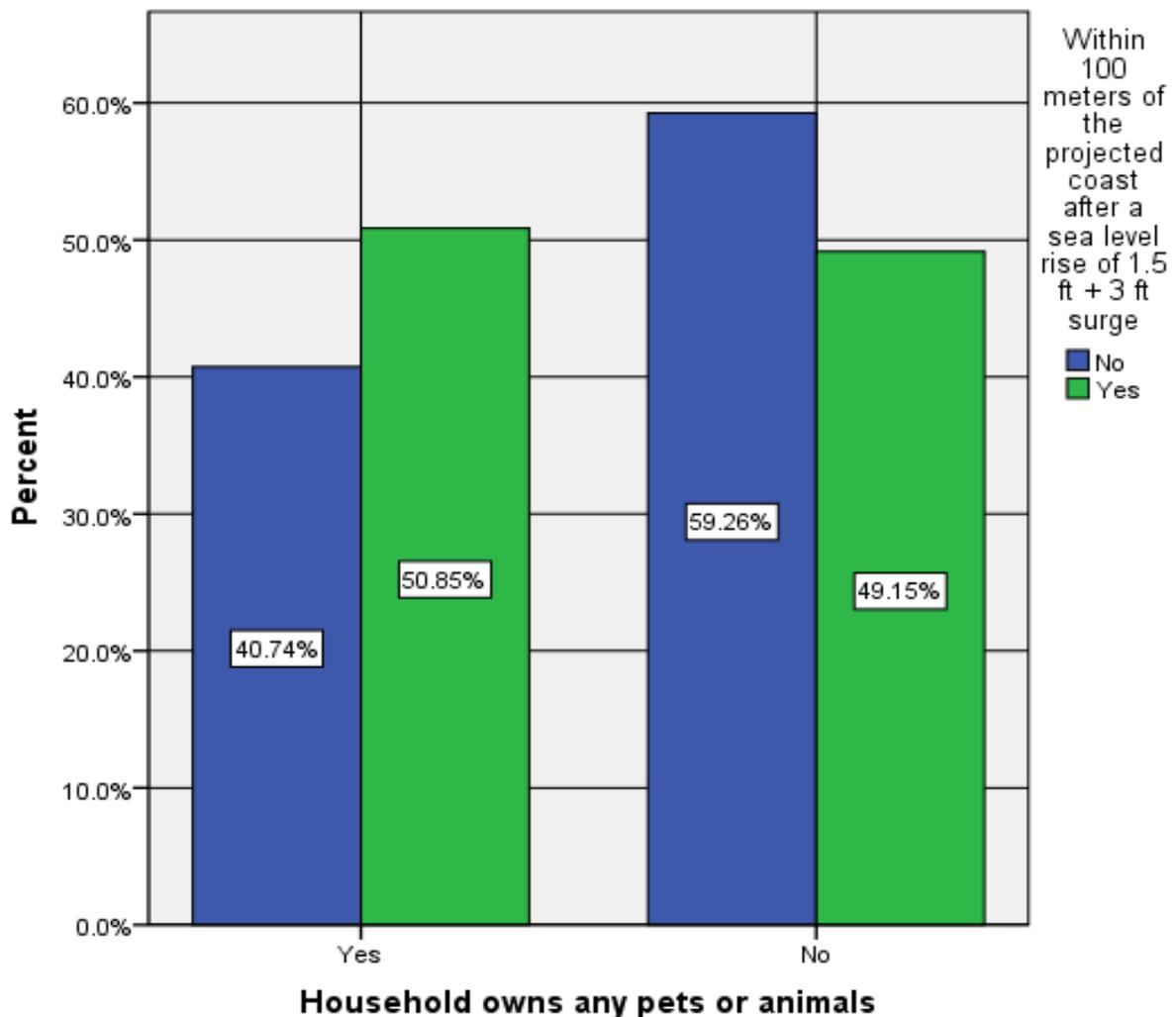
### Household Owns Pets or Animals .. by .. Within 100 Meters of the Projected SLR Coastline

Households were asked if they own any pets or animals. These households are disaggregated based on whether or not they are located within 100 meters of the projected coastline after a sea level rise (SLR) of 1.5 feet. For those households located within 100 meters of the projected SLR coastline, nearly 61 percent report that they own pets or animals, while about 39 percent report that they don't own pets or animals. For those households not located within 100 meters of the projected SLR coastline, nearly 41 percent report that they own pets or animals and about 59 percent report that they don't own pets or animals.



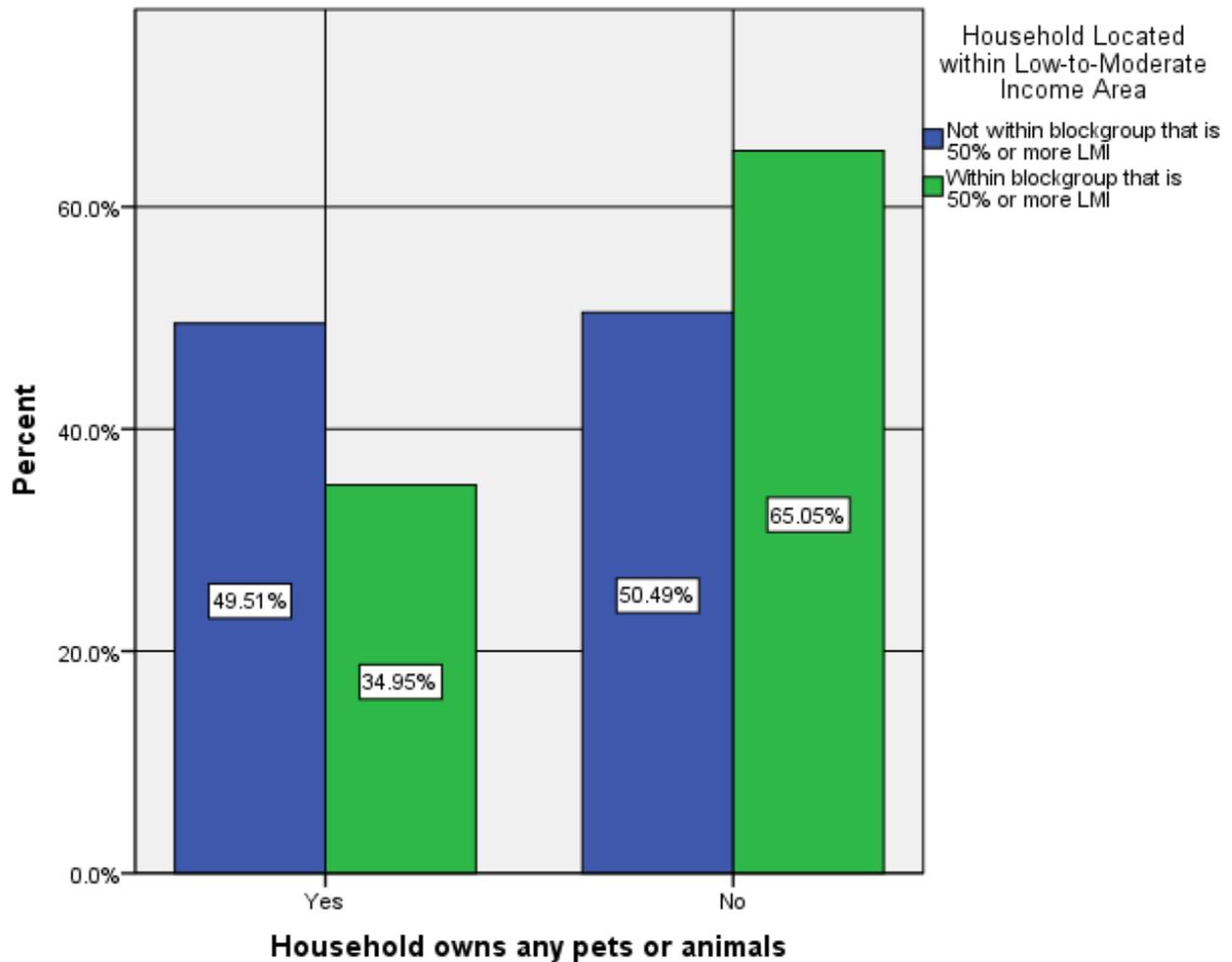
### Household Owns Pets or Animals .. by.. Within 100 Meters of the Projects SLR+Surge Coastline

Households were asked if they own any pets or animals. These households are disaggregated based on whether or not they are located within 100 meters of the projected coastline after a sea level rise (SLR) of 1.5 feet and a storm surge of 3 feet. For those households located within 100 meters of the projected SLR+Surge coastline, nearly 51 percent report that they own pets or animals, while about 49 percent report that they don't own pets or animals. For those households not located within 100 meters of the projected SLR+Surge coastline, nearly 41 percent report that they own pets or animals and about 59 percent report that they don't own pets or animals.



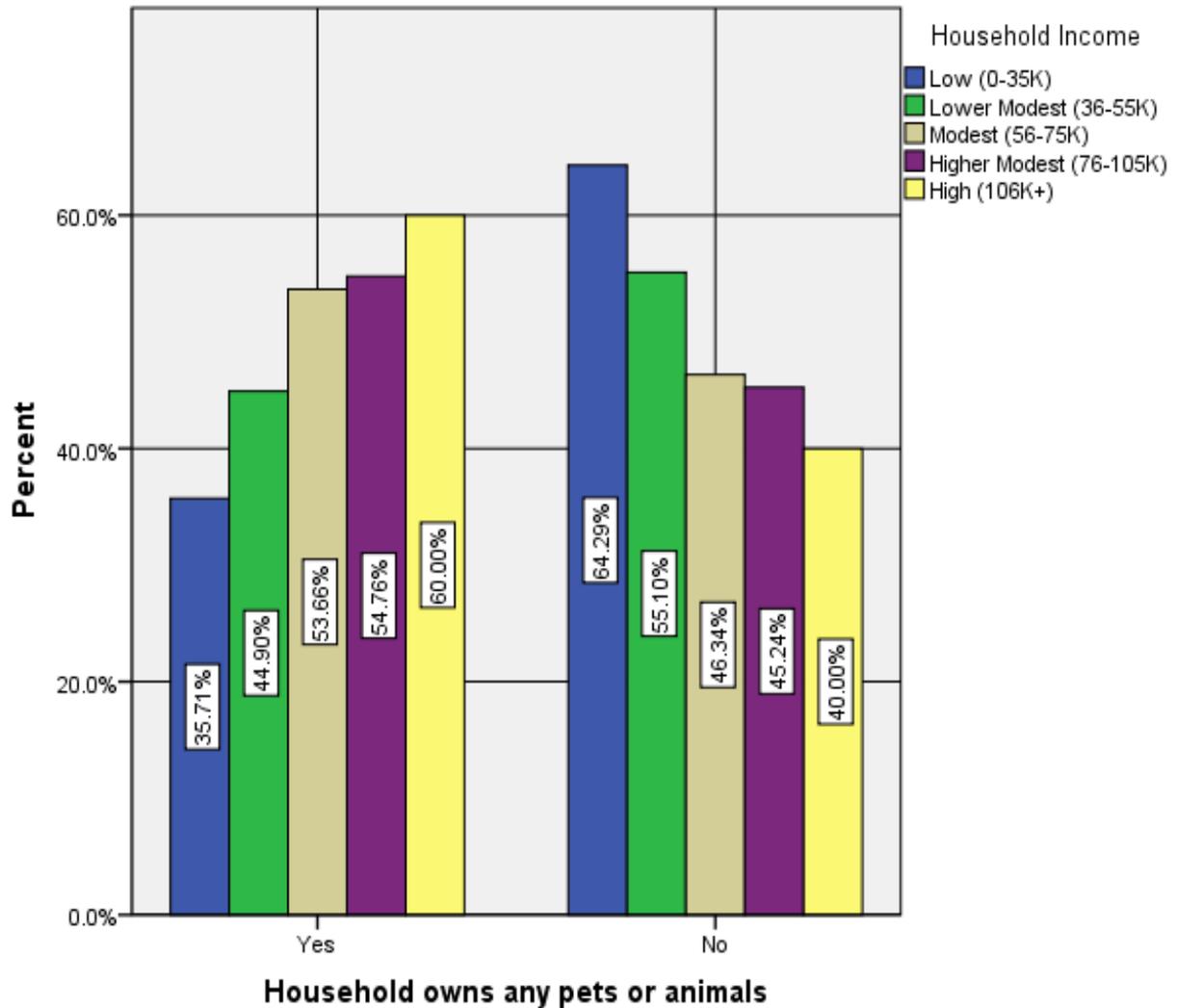
### Household Owns Pets or Animals .. by .. LMI Area

Households were asked if they own any pets or animals. These households are disaggregated based on whether or not they are located within a low-to-moderate income block group. For those households located within a low-to-moderate income block group, nearly 35 percent report that they own pets or animals, while about 65 percent report that they don't own pets or animals. For those households not located within a low-to-moderate income block group, nearly 50 percent report that they own pets or animals and about 50 percent report that they don't own pets or animals.



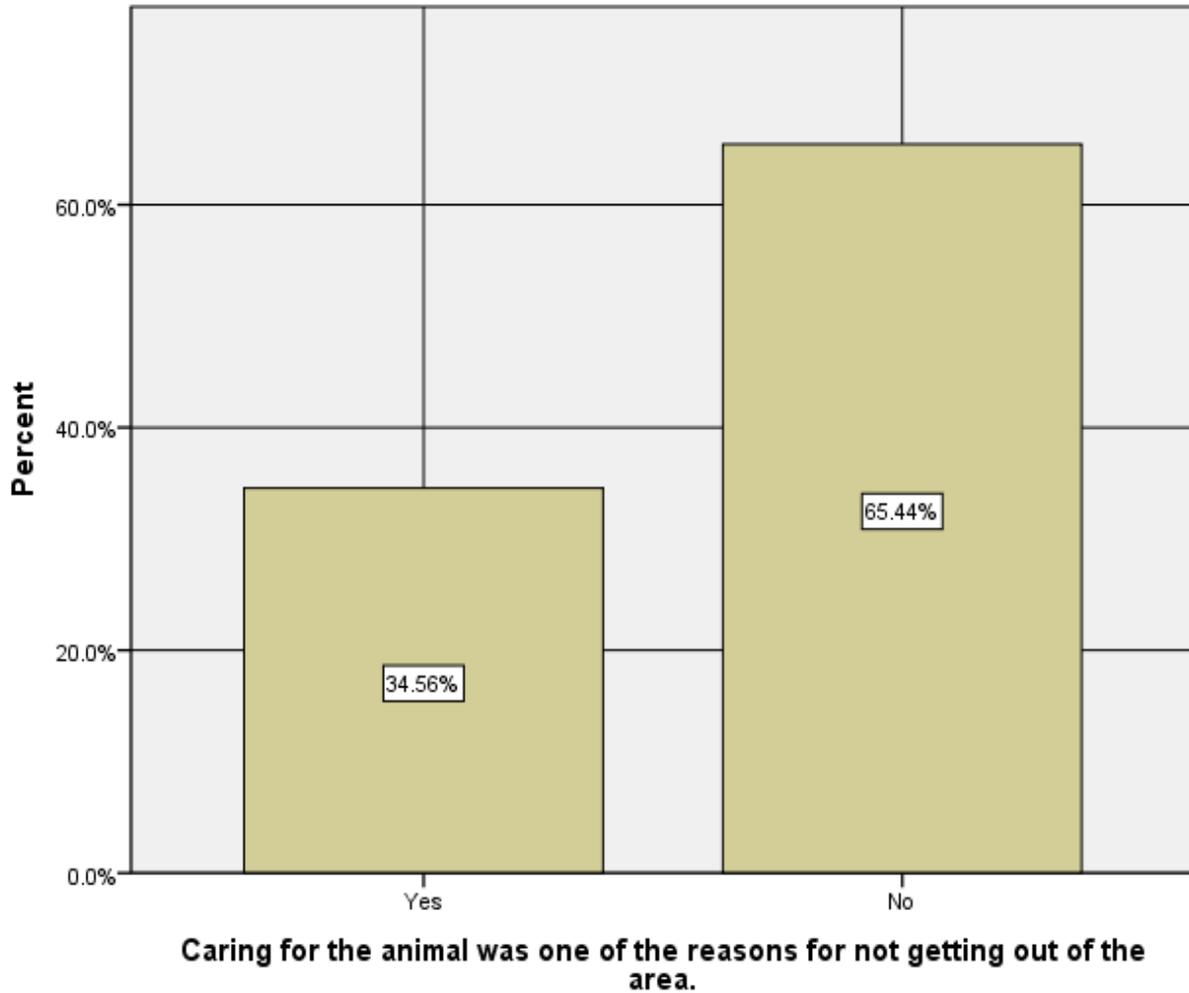
### Household Owns Pets or Animals .. by .. Income

Households were asked if they own any pets or animals. These households are disaggregated by household annual income. The following approximate percent of households report owning a pet or animal: 36 percent low, 45 percent lower modest, 54 percent modest, 55 percent higher modest, and 60 percent high.



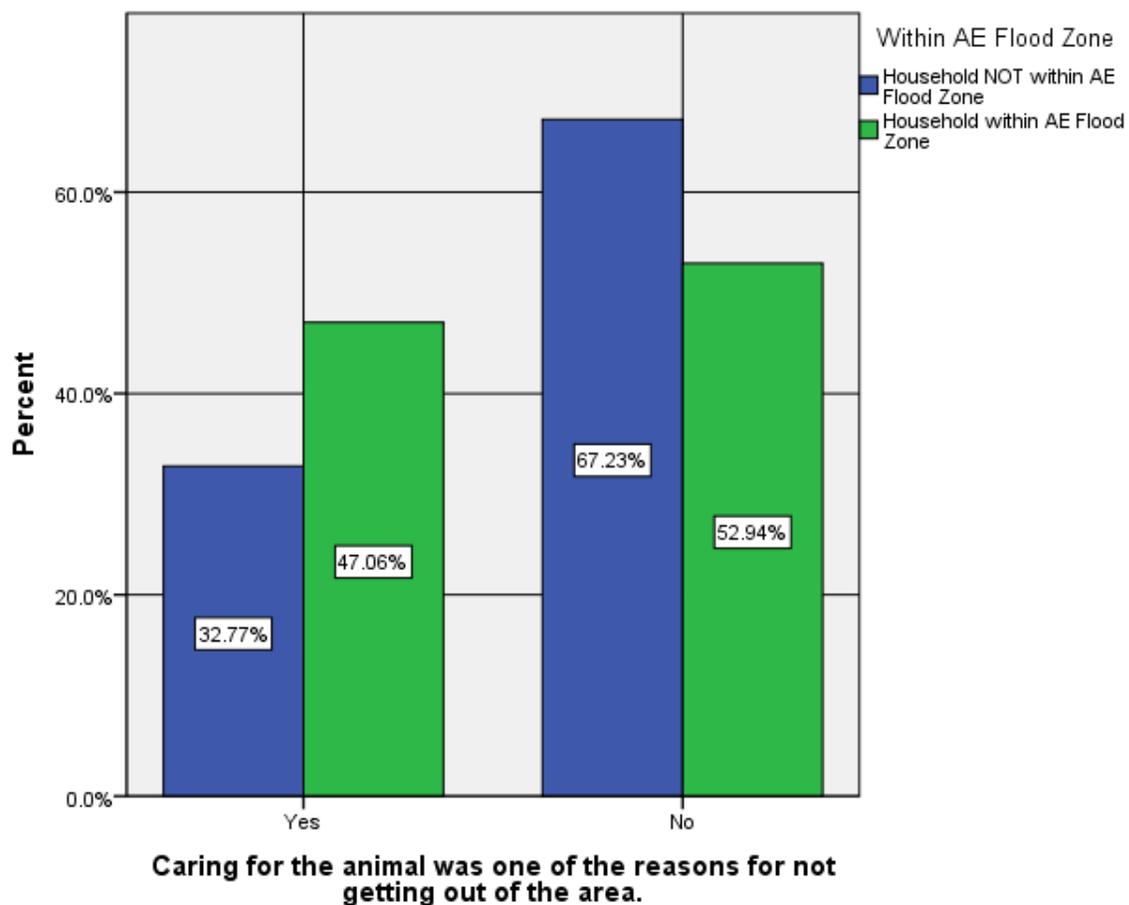
### Pet or Animal Reason for Not Leaving

Households owning pets or animals were asked owing this pet or animal was one of the reasons that the household did not leave the region in anticipation of Hurricane Irene. Approximately 35 percent reported that this was one of the reasons for remaining in the region.



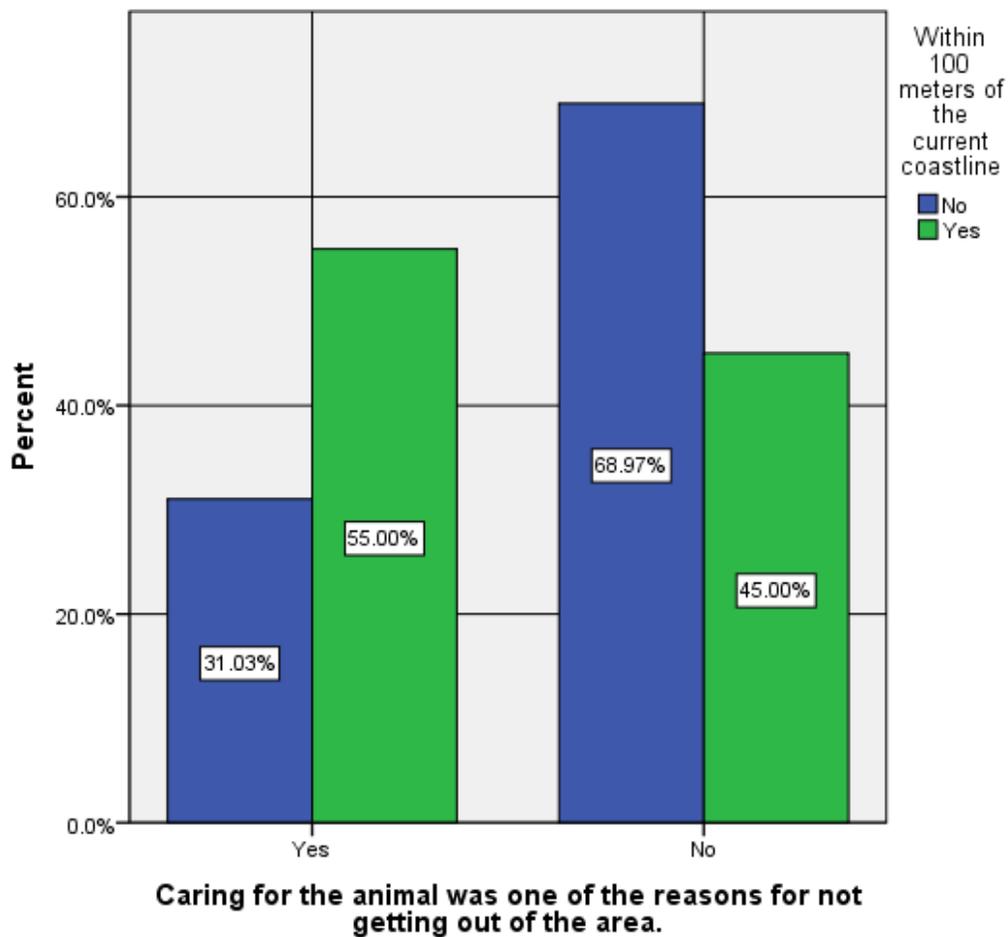
### Pet or Animal Reason for Not Leaving .. by .. AE Flood Zone

Households owning pets or animals were asked owing this pet or animal was one of the reasons that the household did not leave the region in anticipation of Hurricane Irene. These households are disaggregated based on whether or not they are located within an AE flood zone. For those households located within the flood zone, 47 percent report that a household member stayed to take care of a pet or animal, while about 53 percent report no household member staying for that reason. For those households not located within the flood zone, 33 percent report that a household member stayed to take care of a pet or animal, while about 67 percent report no household member staying for that reason.



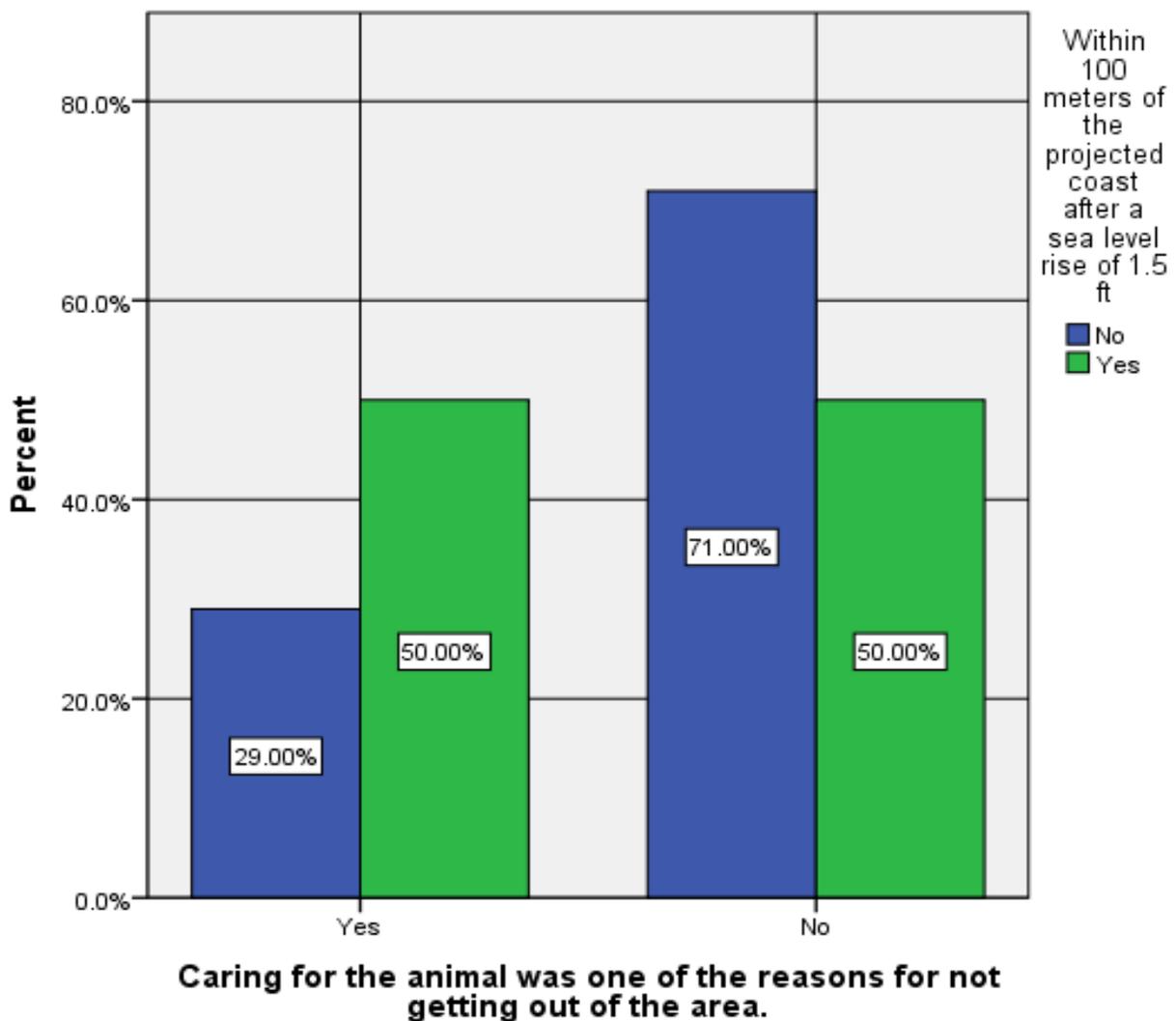
### Pet or Animal Reason for Not Leaving .. by .. Within 100 Meters of the Current Coastline

Households owning pets or animals were asked owing this pet or animal was one of the reasons that the household did not leave the region in anticipation of Hurricane Irene. These households are disaggregated by whether or not they are located within 100 meters of the current coastline. For those households located within 100 meters of the current coastline, 55 percent report that a household member stayed to take care of a pet or animal, while about 45 percent report no household member staying for that reason. For those households not located within 100 meters of the current coastline, 31 percent report that a household member stayed to take care of a pet or animal, while about 69 percent report no household member staying for that reason.



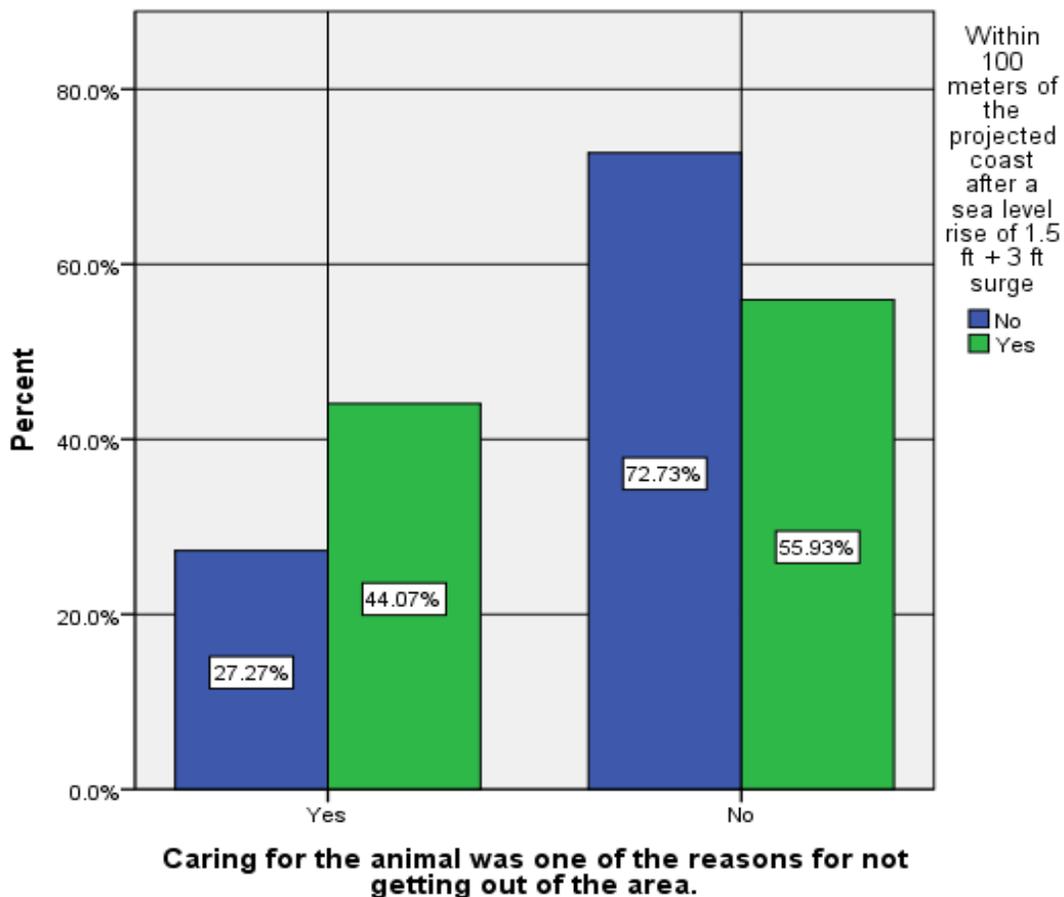
### Pet or Animal Reason for Not Leaving .. by .. Within 100 Meters of the Projected SLR Coastline

Households owning pets or animals were asked owing this pet or animal was one of the reasons that the household did not leave the region in anticipation of Hurricane Irene. These households are disaggregated by whether or not they are located within 100 meters of the projected coastline after a sea level rise (SLR) of 1.5 feet. For those households located within 100 meters of the projected SLR coastline, 50 percent report that a household member stayed to take care of a pet or animal, while about 50 percent report no household member staying for that reason. For those households not located within 100 meters of the projected SLR coastline, 29 percent report that a household member stayed to take care of a pet or animal, while about 71 percent report no household member staying for that reason.



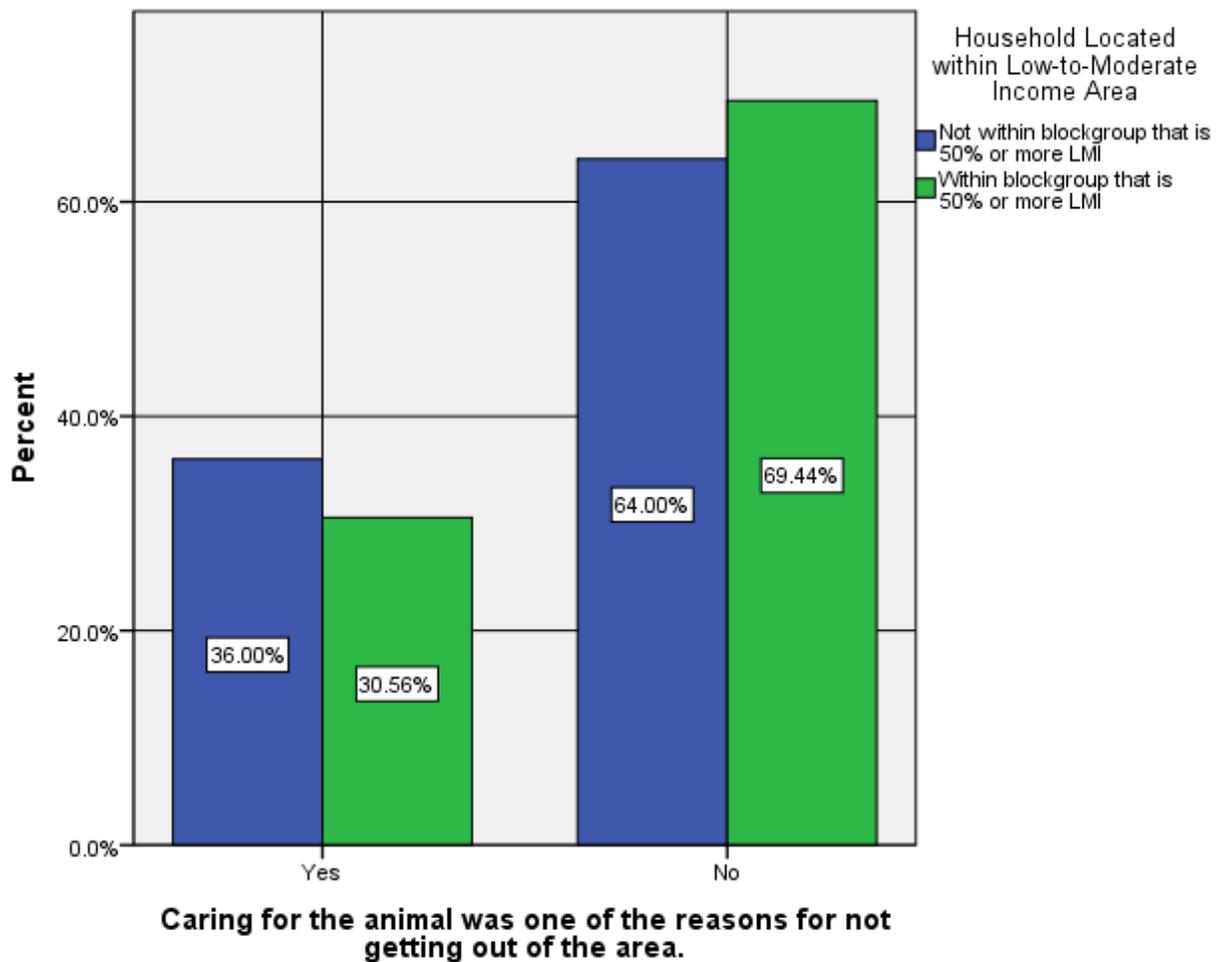
### Pet or Animal Reason for Not Leaving .. by.. Within 100 Meters of the Projects SLR+Surge Coastline

Households owning pets or animals were asked owing this pet or animal was one of the reasons that the household did not leave the region in anticipation of Hurricane Irene. These households are disaggregated by whether or not they are located within 100 meters of the projected coastline after a sea level rise (SLR) of 1.5 feet and a storm surge of 3 feet. For those households located within 100 meters of the projected SLR+Surge coastline, 44 percent report that a household member stayed to take care of a pet or animal, while about 56 percent report no household member staying for that reason. For those households not located within 100 meters of the projected SLR+Surge coastline, 27 percent report that a household member stayed to take care of a pet or animal, while about 73 percent report no household member staying for that reason.



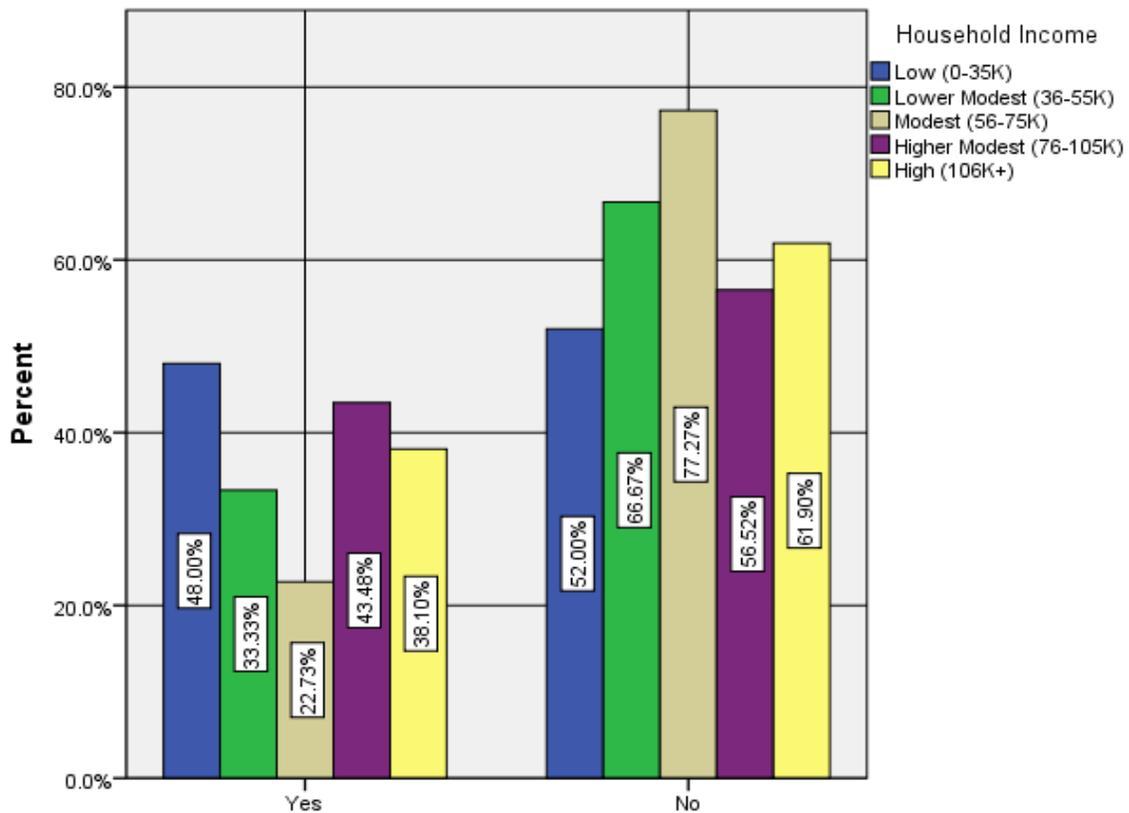
### Pet or Animal Reason for Not Leaving .. by .. LMI Area

Households owning pets or animals were asked owing this pet or animal was one of the reasons that the household did not leave the region in anticipation of Hurricane Irene. These households are disaggregated by residing within or outside an LMI area. Of the respondent households that own a pet and located within the low-to-moderate income area, approximately 31 percent report that caring for their animal was one of the reasons for not getting out of the area. Of the respondent households that own a pet and not within the income area, 36 percent claimed that caring for their animal was one of the reasons for not getting out of the area.



### Pet or Animal Reason for Not Leaving .. by .. Income

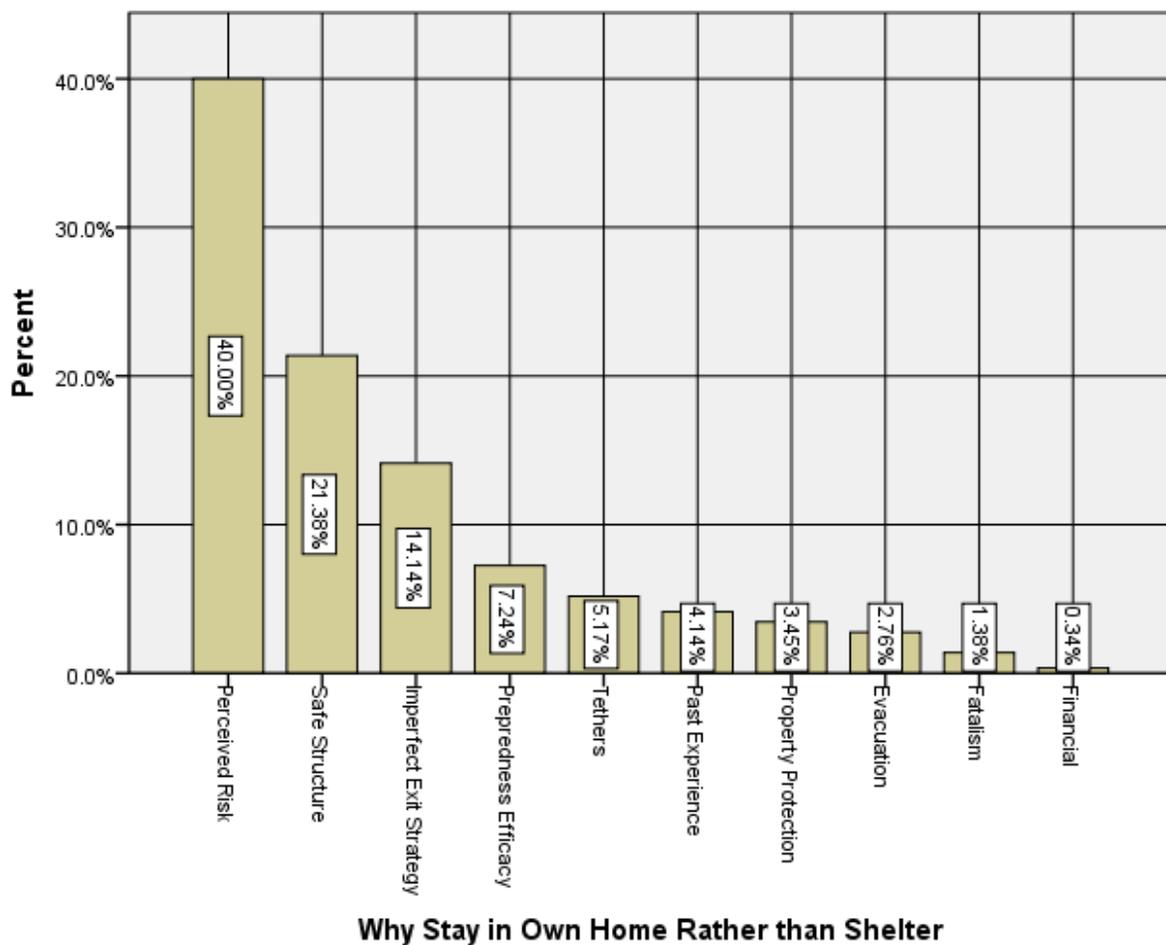
Households owning pets or animals were asked owing this pet or animal was one of the reasons that the household did not leave the region in anticipation of Hurricane Irene. These are disaggregated by self-reported annual household income. The five income ranges are as follows: low, lower modest, modest, higher modest, and high. The households in the low income range have report that one of reasons the respondent didn't evacuate was to take care for an animal or pet at a rate of 48 percent. About 33 percent in the lower modest income range claimed they stayed to take care of their animal or pet. Of the modest income range respondent households, approximately 23 percent stayed to care for their animal or pet. Approximately 43 percent of the higher modest income households didn't evacuate to care for a pet or animal. 38 percent of high income households report not evacuating to care for their pet.



**Caring for the animal was one of the reasons for not getting out of the area.**

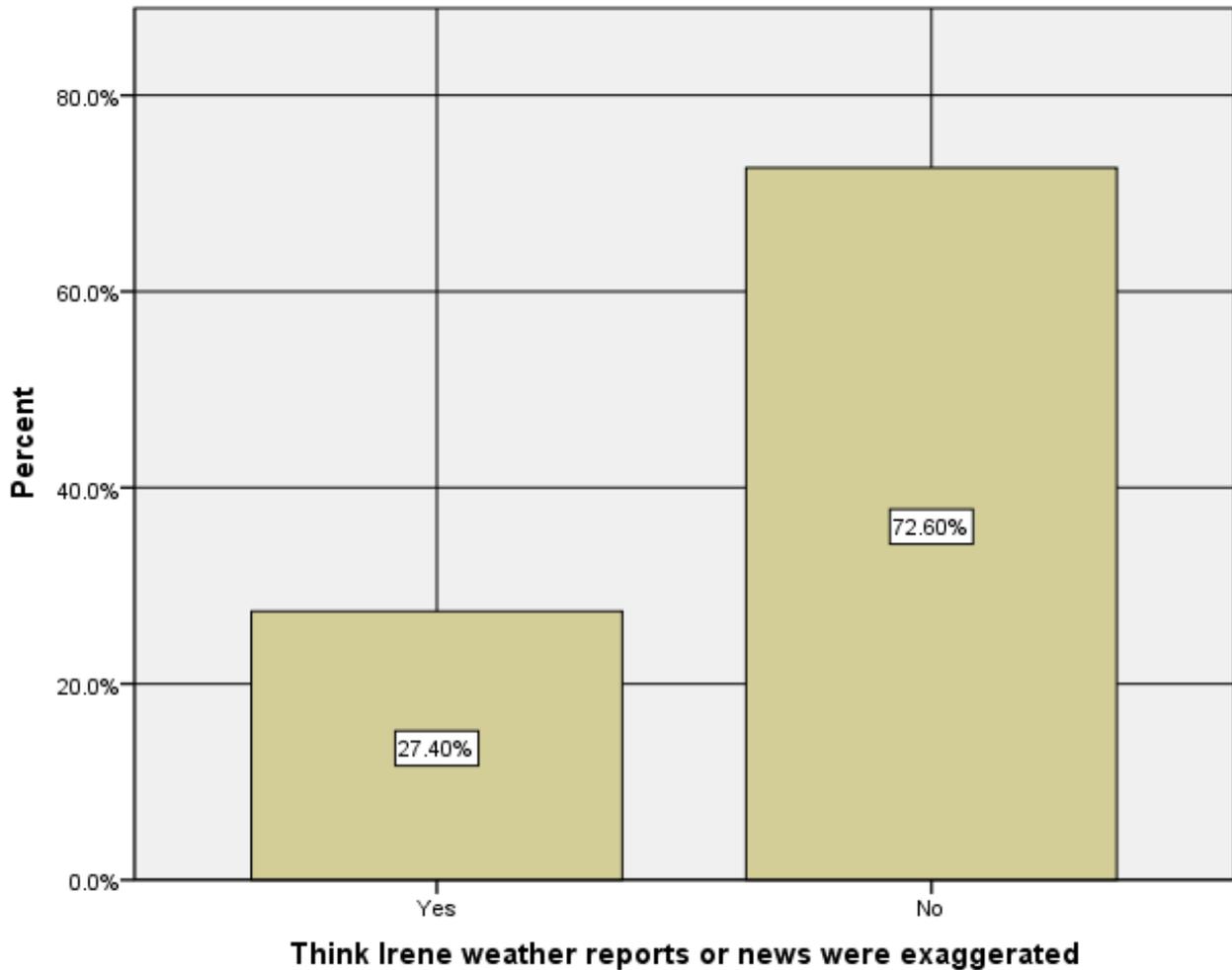
## Reason Stayed in Home Rather Than in Community Shelter

Households were queried to provide the reasons they chose to stay specifically in their own home rather than go to a community shelter. While a respondent could offer several reasons, identified was the primary reason. Responses are organized within the following ten themes. Commonly mentioned (40 percent) were reasons related to the perceived risk of the impending storm being too small to justify relocating to a community shelter. Over 21 percent of the mentioned reasons fall within the concept of safe structure, meaning that the home's sheltering structure was viewed as either adequate to manage the storm or better than the community shelter structure.



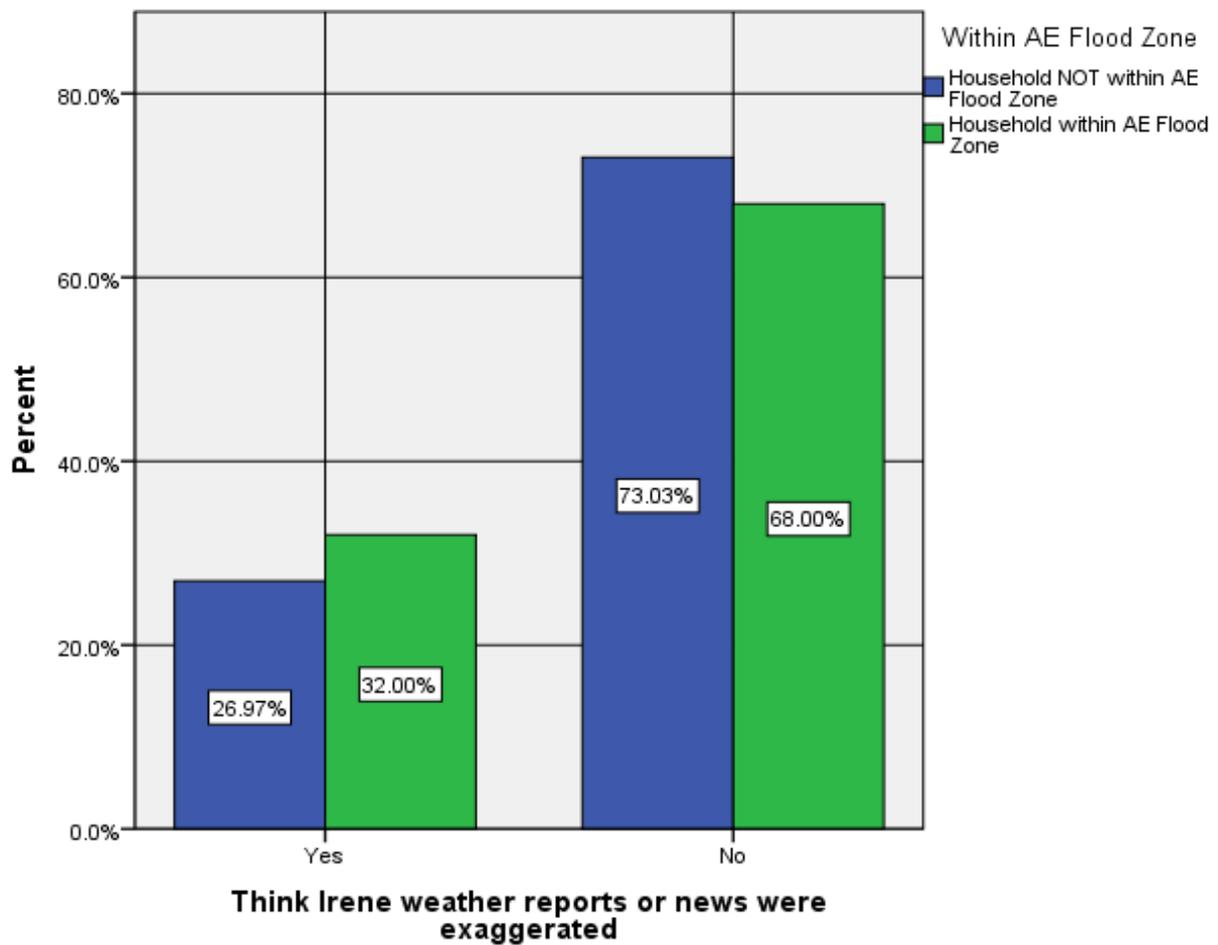
## Weather Reports Exaggerated

Households were asked if they thought Hurricane Irene weather reports or news about how bad it might be were exaggerated. Just over 27 percent of households report that they thought the weather reports or news were exaggerated, while about 73 percent report that they didn't think the weather reports or news were exaggerated.



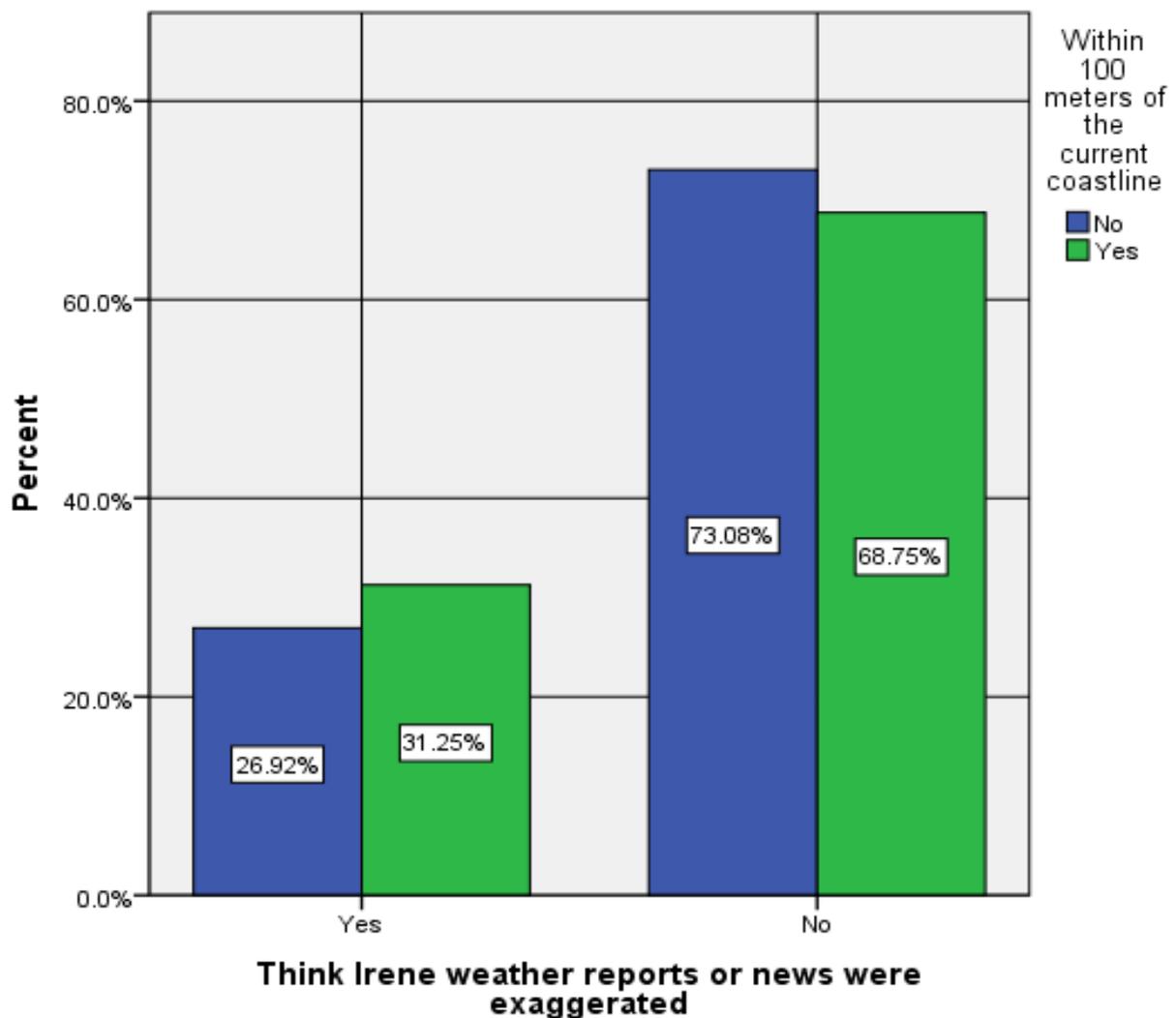
### Weather Reports Exaggerated .. by .. AE Flood Zone

Households were asked if they thought Hurricane Irene weather reports or news about how bad it might be were exaggerated. These responses are further disaggregated based on whether or not they are located within an AE flood zone. For those households located within the flood zone, about 32 percent report that they thought the weather reports or news were exaggerated, while about 68 percent report that they didn't think the weather reports or news were exaggerated. For those households not located within the flood zone, about 27 percent report that they thought the weather reports or news were exaggerated, while about 73 percent report that they didn't think the weather reports or news were exaggerated.



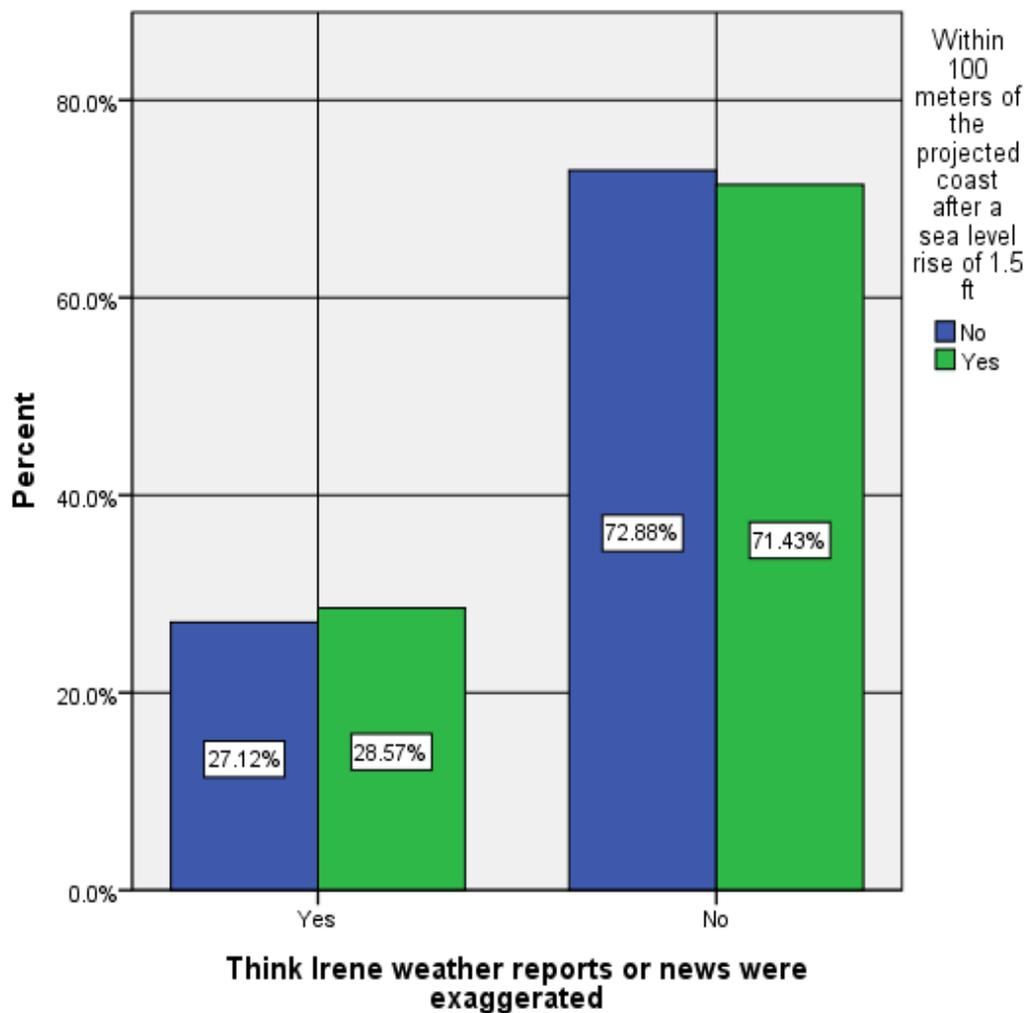
### Weather Reports Exaggerated .. by .. Within 100 Meters of the Current Coastline

Households were asked if they thought Hurricane Irene weather reports or news about how bad it might be were exaggerated. These responses are further disaggregated based on whether or not they are located within 100 meters of the current coastline. For those households located within 100 meters of the current coastline, about 31 percent report that they thought the weather reports or news were exaggerated, while nearly 69 percent report that they didn't think the weather reports or news were exaggerated. For those households not located 100 meters of the current coastline, about 27 percent report that they thought the weather reports or news were exaggerated, while about 73 percent report that they didn't think the weather reports or news were exaggerated.



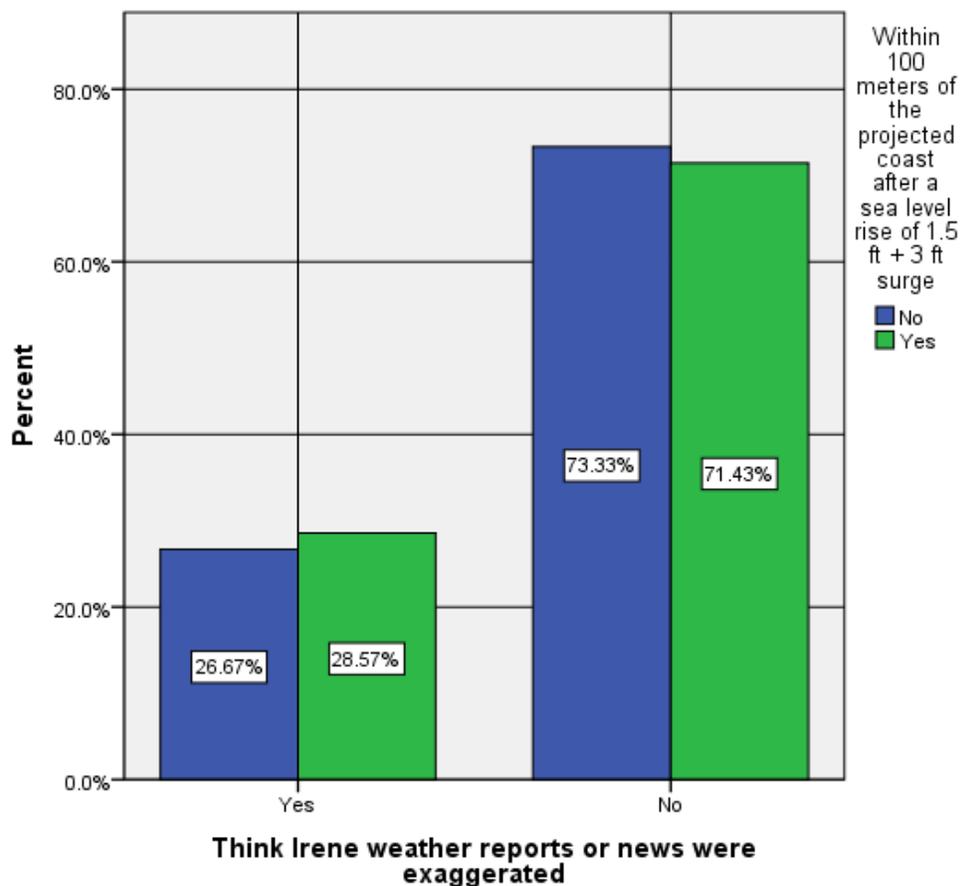
### Weather Reports Exaggerated .. by .. Within 100 Meters of the Projected SLR Coastline

Households were asked if they thought Hurricane Irene weather reports or news about how bad it might be were exaggerated. These respondents are further disaggregated based on whether or not they are located within 100 meters of the projected coastline after a sea level rise (SLR) of 1.5 feet. For those households located within 100 meters of the projected SLR coastline, nearly 29 percent report that they thought the weather reports or news were exaggerated, while about 71 percent report that they didn't think the weather reports or news were exaggerated. For those households not located 100 meters of the projected SLR coastline, about 27 percent report that they thought the weather reports or news were exaggerated, while about 73 percent report that they didn't think the weather reports or news were exaggerated.



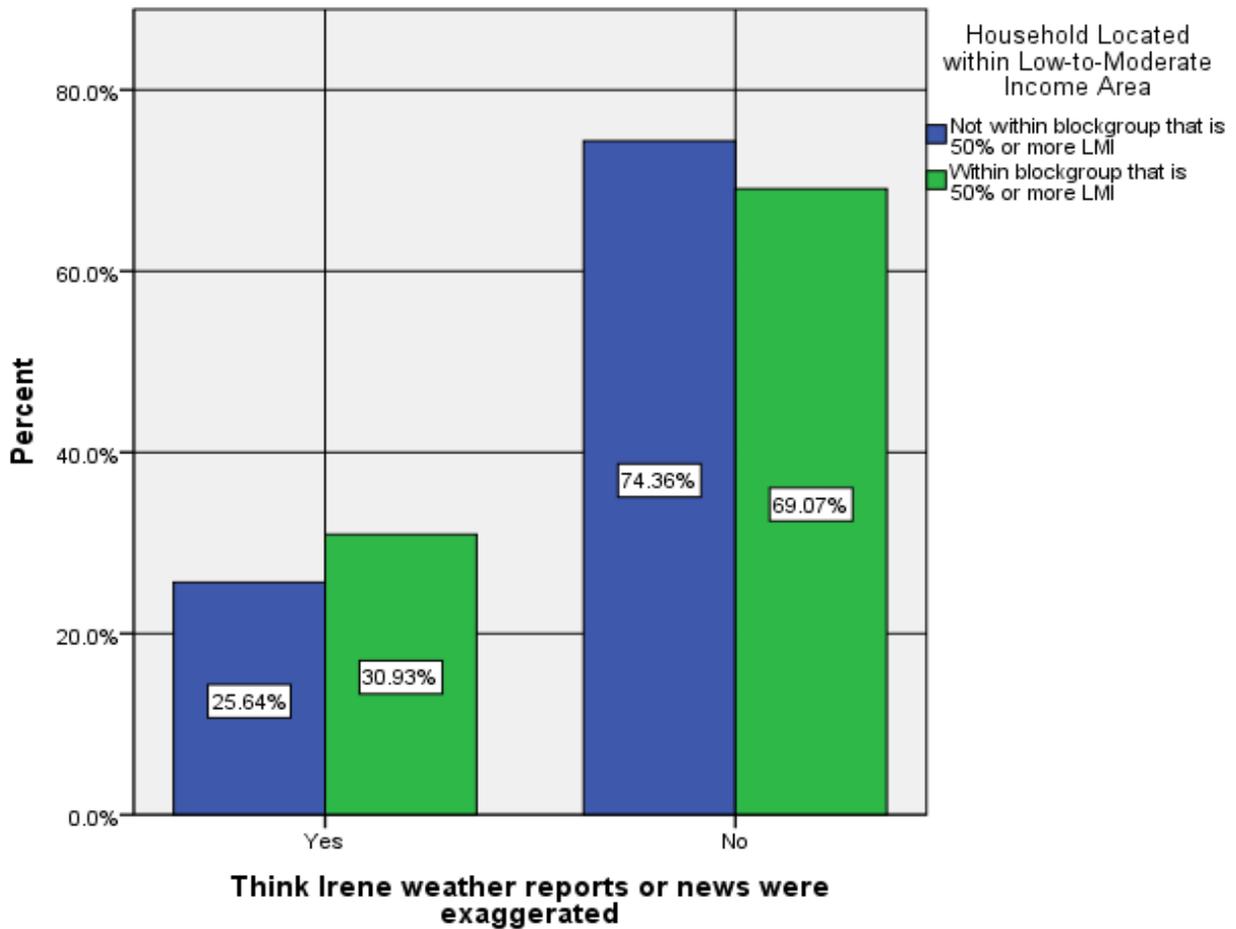
### Weather Reports Exaggerated .. by.. Within 100 Meters of the Projects SLR+Surge Coastline

Households were asked if they thought Hurricane Irene weather reports or news about how bad it might be were exaggerated. These responses are further disaggregated based on whether or not they are located within 100 meters of the projected coastline after a sea level rise (SLR) of 1.5 feet and a storm surge of 3 feet. For those households located within 100 meters of the projected SLR+Surge coastline, nearly 29 percent report that they thought the weather reports or news were exaggerated, while about 71 percent report that they didn't think the weather reports or news were exaggerated. For those households not located 100 meters of the projected SLR+Surge coastline, about 27 percent report that they thought the weather reports or news were exaggerated, while about 73 percent report that they didn't think the weather reports or news were exaggerated.



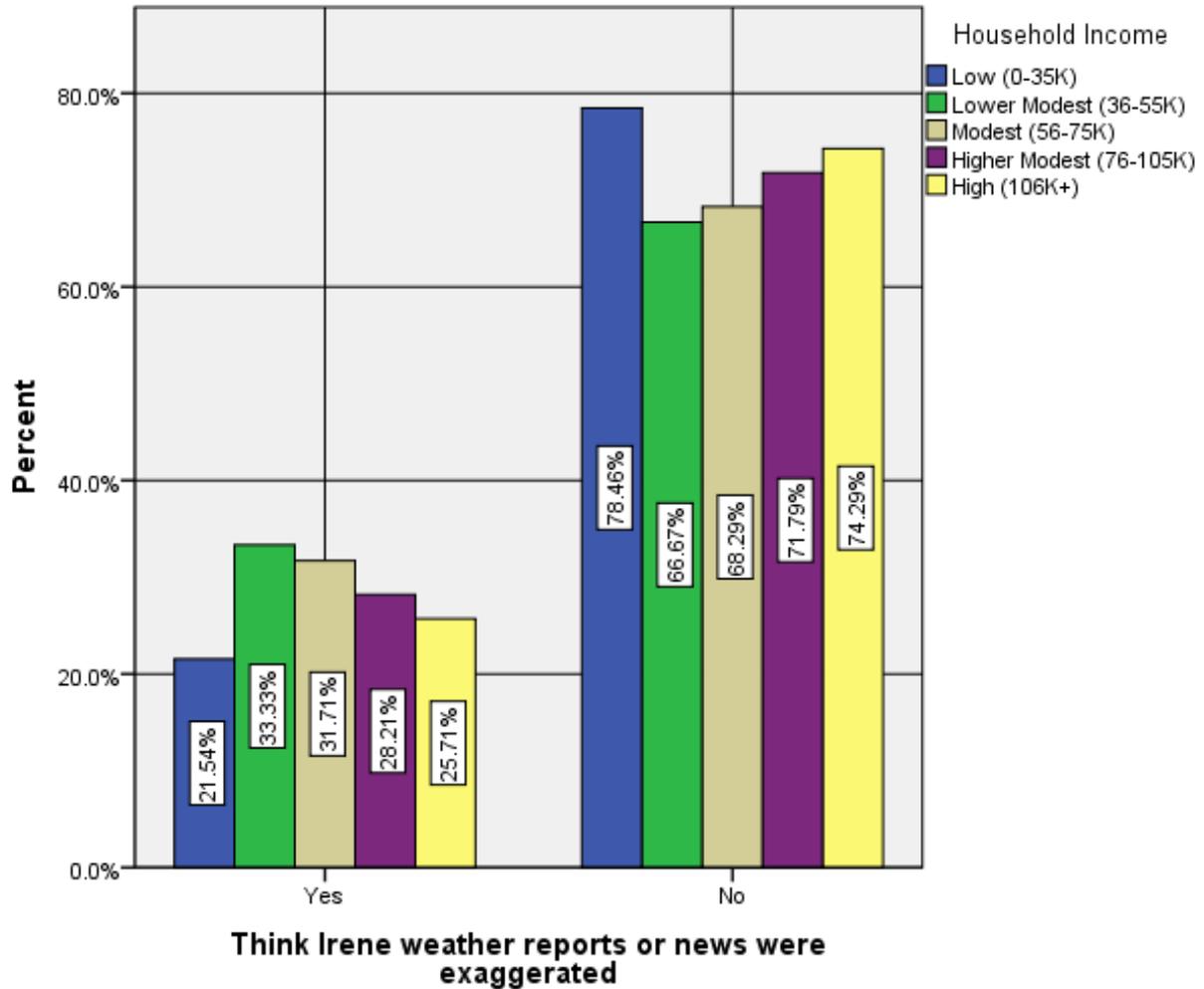
### Weather Reports Exaggerated .. by .. LMI Area

Households were asked if they thought Hurricane Irene weather reports or news about how bad it might be were exaggerated. These responses are further disaggregated based on whether or not they are located within a low-to-moderate income block group. For those households located within a low-to-moderate income block group, nearly 31 percent report that they thought the weather reports or news were exaggerated, while nearly 69 percent report that they didn't think the weather reports or news were exaggerated. For those households not located within a low-to-moderate income block group, about 26 percent report that they thought the weather reports or news were exaggerated, while about 74 percent report that they didn't think the weather reports or news were exaggerated.



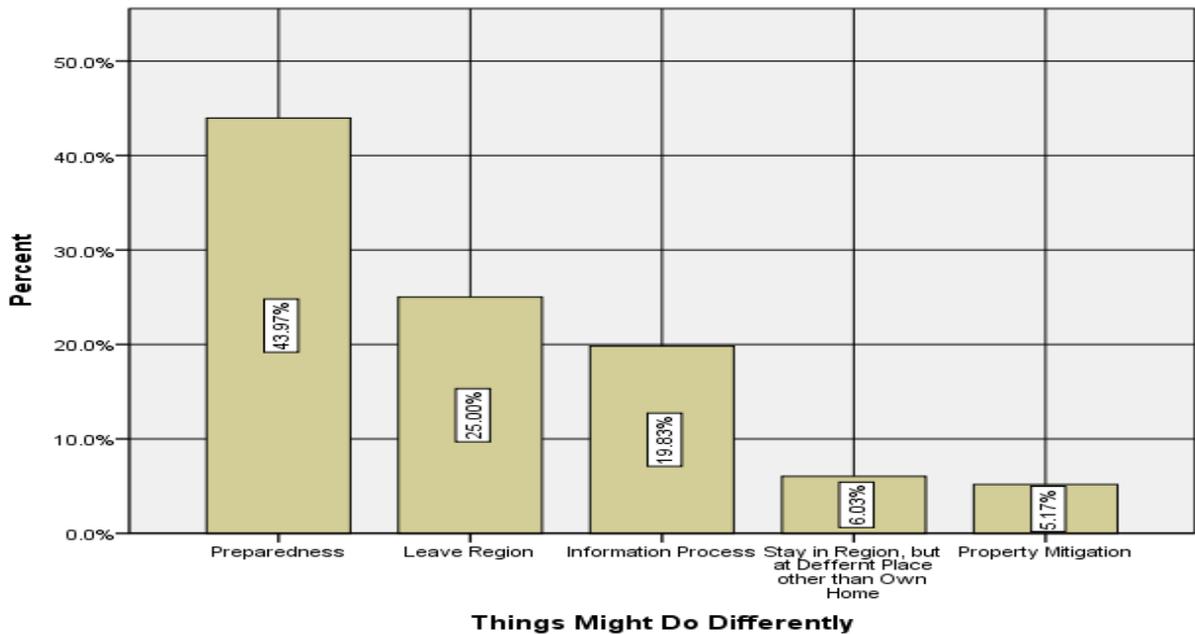
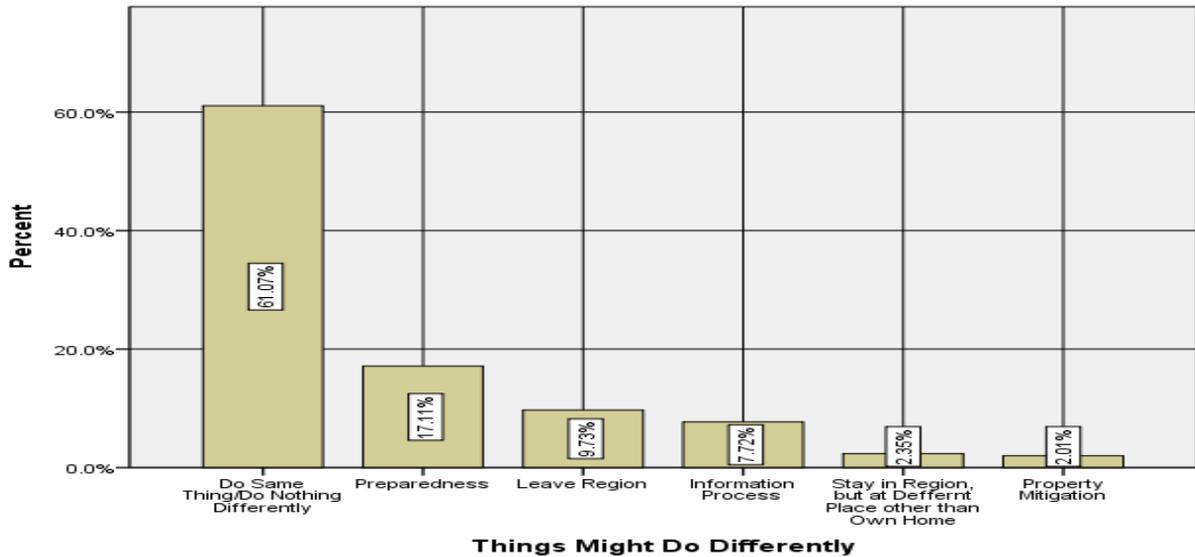
### Weather Reports Exaggerated .. by .. Income

Households were asked if they thought Hurricane Irene weather reports or news about how bad it might be were exaggerated. These responses are further disaggregated by average annual income. The following approximate percent of households report that they thought the weather reports or news were exaggerated: 22 percent low, 33 percent lower modest, 32 percent modest, 28 percent higher modest, and 26 percent high.



## Things Might Do Differently

Households were asked, if a storm similar to Hurricane Irene approaches in the future, would they do anything differently. These findings are displayed in the below two similar charts. The first chart shows that just over 61 percent of all households experiencing Hurricane Irene report that they would do the same thing or do nothing differently. However, the remaining roughly 39 percent report what they would do differently. These are organized into five themes. The second chart shows only respondents that report their household would do something differently.



## Evacuation Behavior

Among the 353 households sampled, 20 households evacuated from the region in anticipating of the impending storm. The following tables provide information about evacuation behavior derived from these 20 households. Although the figure of just 20 households is too few to infer with any acceptable confidence knowledge about the broader behavior or preferences of Portsmouth households, these data are provided to provide a sense of the types of perceptions and behaviors that are manifesting within the citizenry.

### Number of Vehicles in Household

This table details the number of vehicles in the household that evacuated for Hurricane Irene.

Number of Vehicles	Frequency	Percentage
1 Vehicle	5	25.0
2 Vehicles	9	45.0
3 Vehicles	4	20.0
4 or More Vehicles	1	5.0
Refuse	1	5.0
Total	20	100.0

### Number of Vehicles Taken Out of Region for Fear of Damage

This table highlights the number of vehicles that are removed out of fear of wind or flood damage.

Number of Vehicles	Frequency	Percentage
No Vehicles	6	30.0
1 Vehicle	12	60.0
2 Vehicles	2	10.0
Total	20	100.00

### Type of Vehicle

This table shows the type of vehicle used to evacuate from Hurricane Irene.

Type of Vehicle	Frequency	Percentage
Private care, van, minivan, or light truck	19	95.0
Commercial jet	1	5.0
Total	20	100.00

### Number of People in Departure Vehicle

This table highlights the number of people within the household's departure vehicle.

Number of People	Frequency	Percentage
1 Person (Respondent)	5	26.3
2 Persons	6	31.6
3 Persons	2	10.5
4 Persons	5	26.3
5 Persons	1	5.3
Total	19	100.00

### Vehicle Occupant Not From Household

This table details the number of exiting vehicle occupants that were non-household members. Non-household members occupying vehicles were all family members.

Non-Household Member in Vehicle	Frequency	Percentage
Yes	6	42.9
No	8	57.1
Total	14	100.0

### Exiting Vehicle Owned by Household Member

This table shows the number of exiting vehicles owned by the household members.

Ownership of the Exiting Vehicle	Frequency	Percentage
Owned by Household Member	16	84.2
Owned by Other	3	15.8
Total	19	100.0

### Exiting Vehicle Caravanned

This table shows the number of exiting vehicles that coordinated, followed, or caravanned with another vehicle that left at the same time.

Coordinated Vehicles	Frequency	Percentage
Yes	4	21.1
No	15	78.9
Total	19	100.00

### Time of Day Departure

This table details the time of day that respondents evacuated by driving.

<b>Time of Day to Get on the Road to Leave</b>	<b>Frequency</b>	<b>Percentage</b>
Early Morning	7	41.2
Late Morning	2	11.8
Middle of the Day	1	5.9
Early Afternoon	3	17.6
Middle Afternoon	1	5.9
Early Evening	2	11.8
Late Evening	1	5.9
Total	17	100.00

### Hours Departed Prior to Landfall

This table details the number of hours prior to Hurricane Irene's landfall that the evacuating individuals departed.

<b>Hours Departed Prior to Landfall</b>	<b>Frequency</b>	<b>Percentage</b>
10.5 Hours Prior	1	5.9
13.5 Hours Prior	2	11.8
18.5 Hours Prior	3	17.6
22 Hours Prior	2	11.8
26 Hours Prior	6	35.3
41 Hours Prior	1	5.9
50 Hours Prior	1	5.9
68 Hours Prior	1	5.9
Total	17	100.00

### Days Departed Prior to Landfall

This table shows the number of days left prior to Hurricane Irene's landfall that evacuating individuals departed.

<b>Days Departed Prior to Landfall</b>	<b>Frequency</b>	<b>Percentage</b>
1 Day Prior	8	47.1
2 Days Prior	7	41.2
3 Days Prior	2	11.8
Total	17	100.00

### Preference to Exit Sooner

This table shows that if it had been completely up to the respondent, would they have exited the area sooner, later, or at about the same time.

Preferred Departure Time	Frequency	Percentage
Sooner	4	20.0
About the Same Time	15	75.0
Refused to Answer	1	5.0
Total	17	100.00

### Reason Departed Later

This table details the reasons that the respondent departed later than preferred.

Reasons for Later Departure	Frequency	Percentage
Other Household Members Had to Finish Work	1	25.0
Took Longer Than Liked to Get Household Ready to Go	2	50.0
Cautious about Departing with a Medically Fragile Household Members	1	25.0
Total	4	100.00

### Exit Destination in Mind

This table details whether or not there was a specific exit destination in mind when they evacuated.

Specific Exit Destination	Frequency	Percentage
Yes	20	100.0
No	0	0.0
Total	20	100.00

### Driving Distance to Exit Destination

This table shows the driving distance in miles from departure location to the vehicle's terminus at the intended destination.

Distance of Miles	Frequency	Percentage
Less than 26 Miles	1	5.3
26-50 Miles	1	5.3
51-75 Miles	1	5.3
76-100 Miles	1	5.3
101-125 Miles	1	5.3
126-150 Miles	1	5.3
151-175 Miles	2	10.5
176-200 Miles	3	15.8
226-250 Miles	1	5.3
276-300 Miles	1	5.3
301-325 Miles	3	15.8
426-450 Miles	1	5.3
Greater than 500 Miles	2	10.5
Total	20	100.0

### Exit Route

This table details the evacuation routes taken from Portsmouth.

Evacuation Route	Frequency	Percentage
264 West to 664 North to 58 West	5	31.3
264 West to 664 North to 58 West to 95 South	2	12.5
264 West to 664 North to 58 West to 460 West	2	12.5
264 East to 64 West	1	6.3
17 North to 10 West	1	6.3
Alternative Route	3	18.8
Don't Know	6	37.5
Total	30	100.00

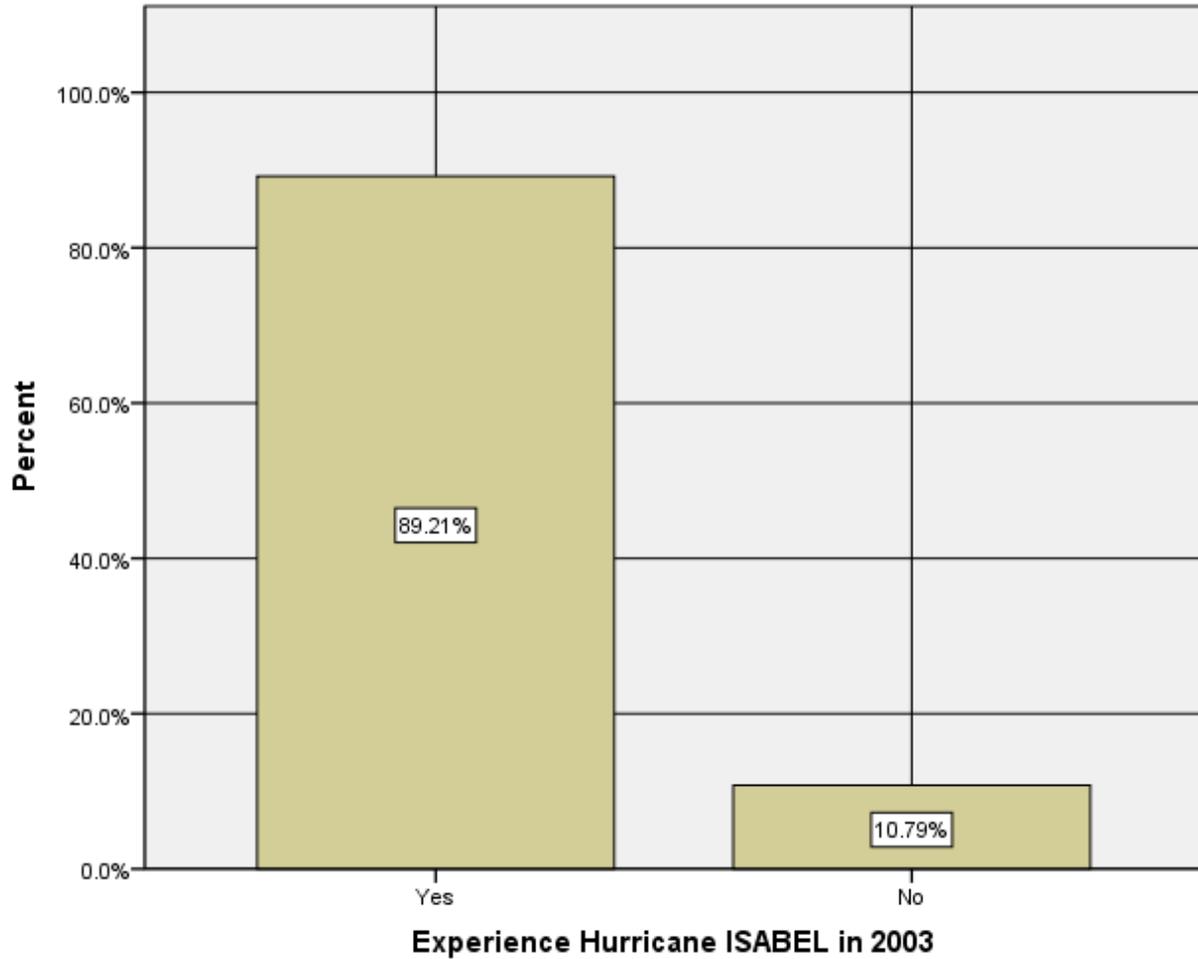
### Reason for Taking Route

This table details the reason for taking the aforementioned evacuation route from Portsmouth.

<b>Reason for Evacuation Route</b>	<b>Frequency</b>	<b>Percentage</b>
Less congestion/avoid major artery, take backroads	2	10.5
Most direct way to our exit destination	14	73.7
Designated route according to emergency planners	1	5.3
I wasn't involved in the decision	1	5.3
Other	10	10.6
Total	20	100.00

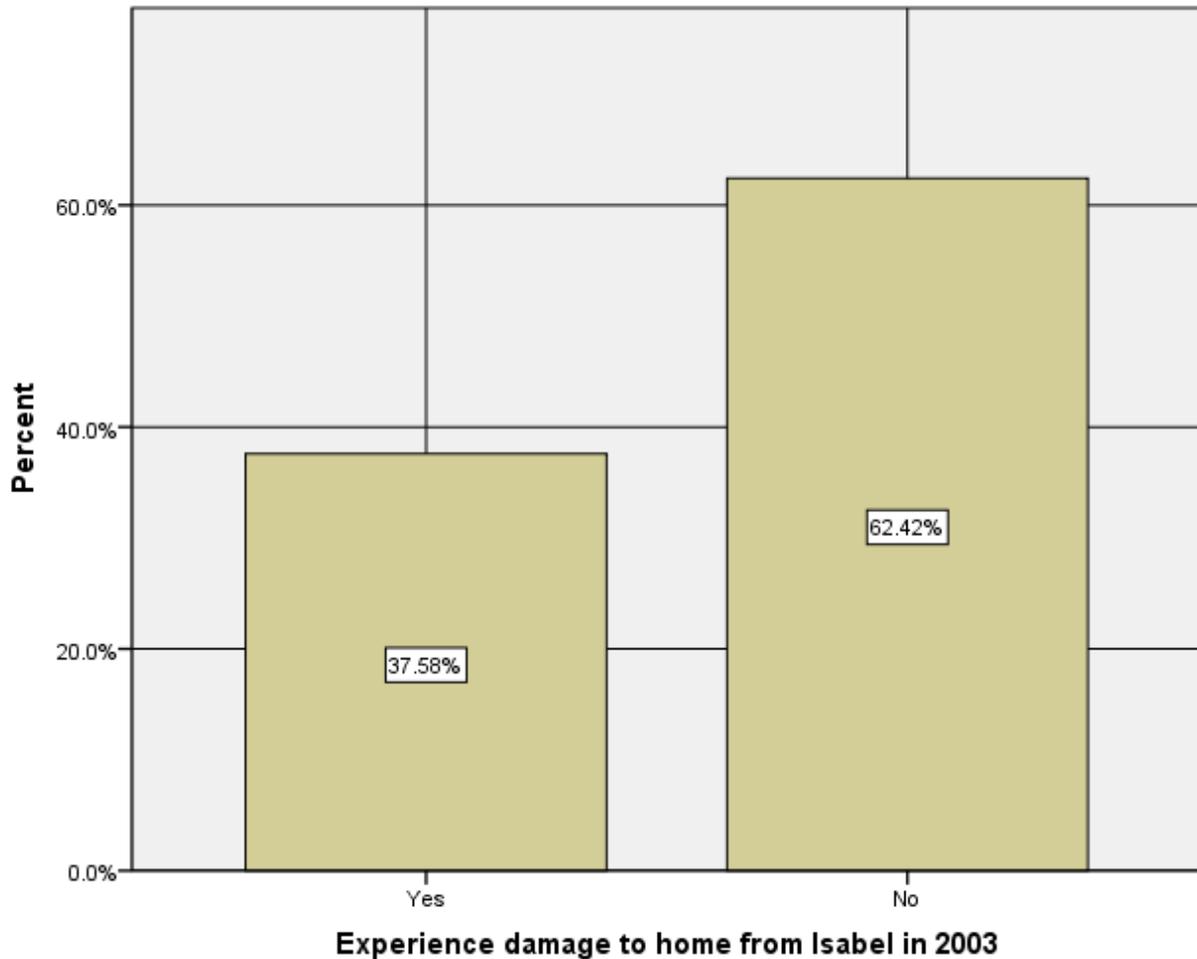
### Experienced Hurricane Isabel in 2003

Households were asked whether or not they experienced Hurricane Isabel in 2003. Approximately 89 percent report that they experienced Hurricane Isabel, while about 11 percent report that they did not.



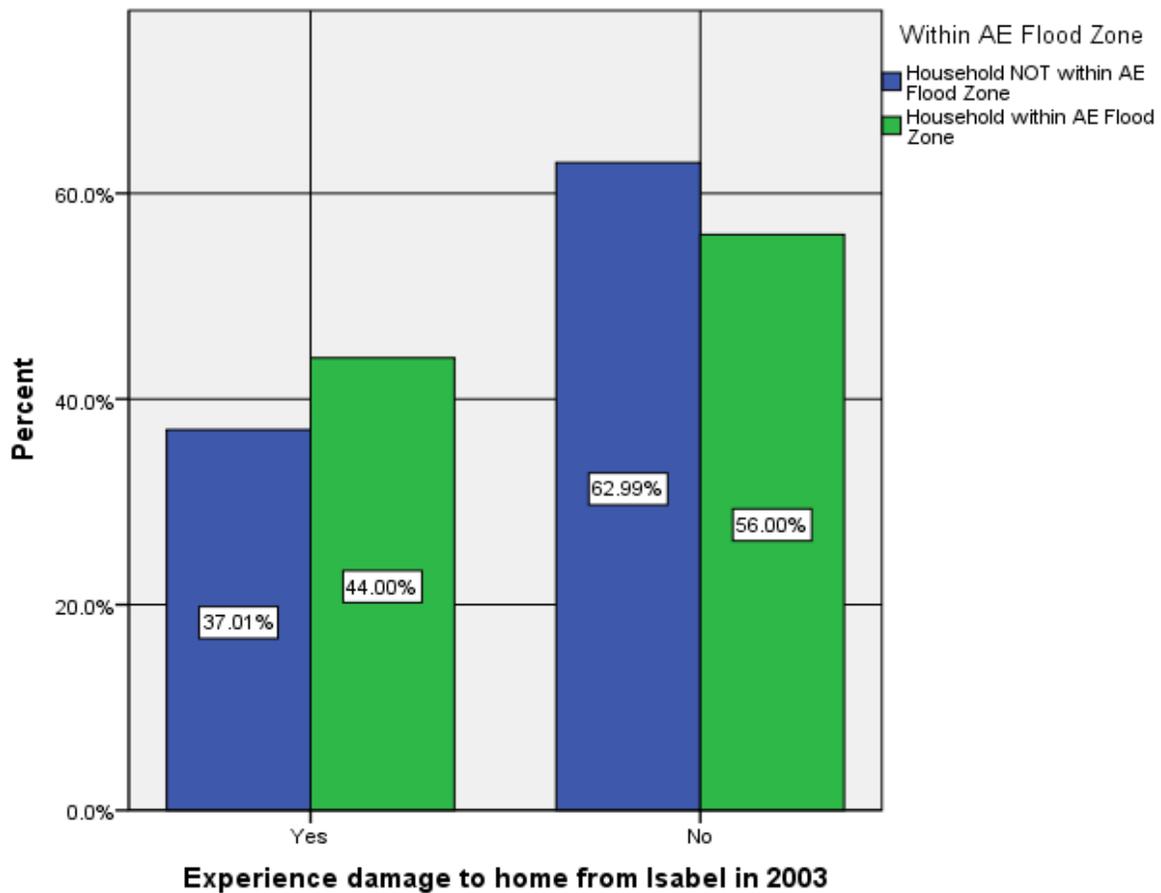
### Experienced Damage to Home from Isabel in 2003

Households that experienced Hurricane Isabel further were asked whether or not they experienced any damage to their home. Of those households that experienced Hurricane Isabel, approximately 38 percent report that they suffered damage to their homes, while 62 percent report that they did not.



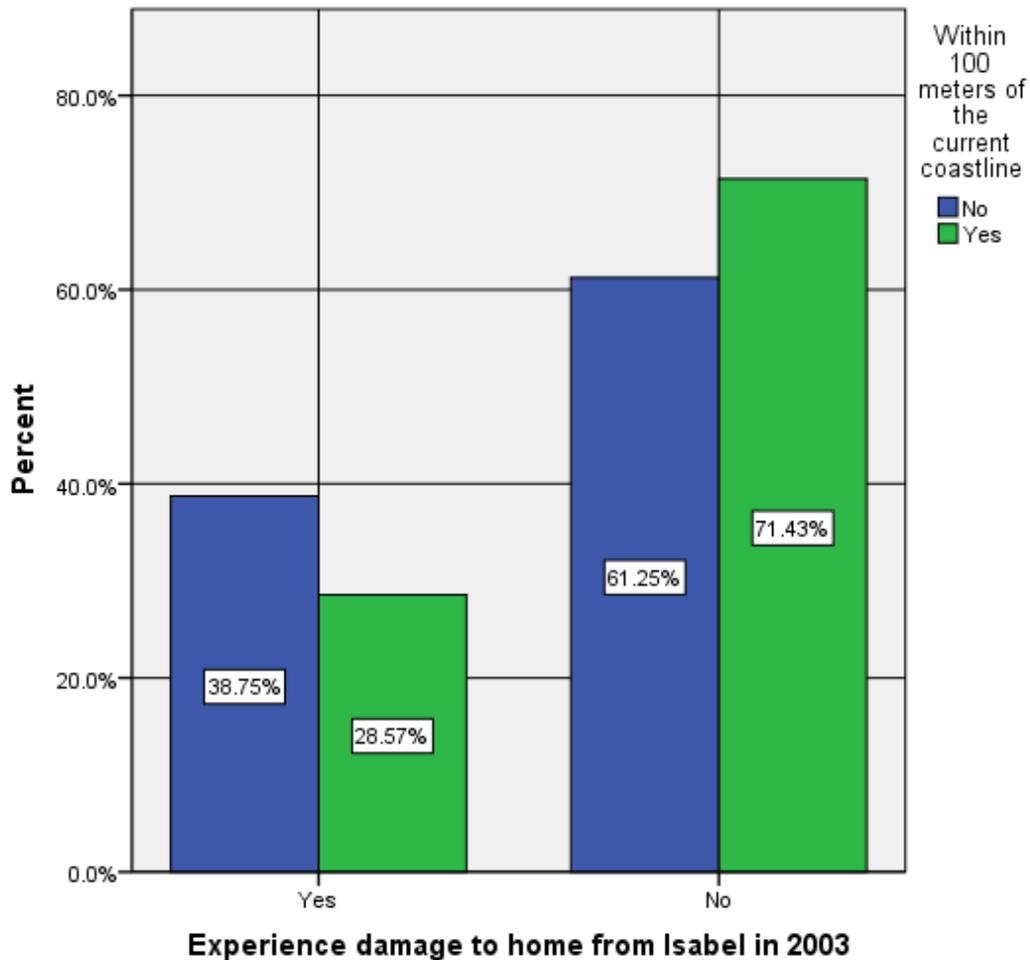
### Experienced Damage to Home from Isabel in 2003 .. by .. AE Flood Zone

Households that experienced Hurricane Isabel were asked whether or not they experienced any damage to their home. These responses are further disaggregated based on whether or not they are located within an AE flood zone. For those households located within the flood zone, 44 percent report that they suffered damage, while approximately 56 percent report that they didn't suffer damage. For those households not located within the flood zone, about 37 percent report that they suffered damage and about 63 percent report that they didn't suffer damage.



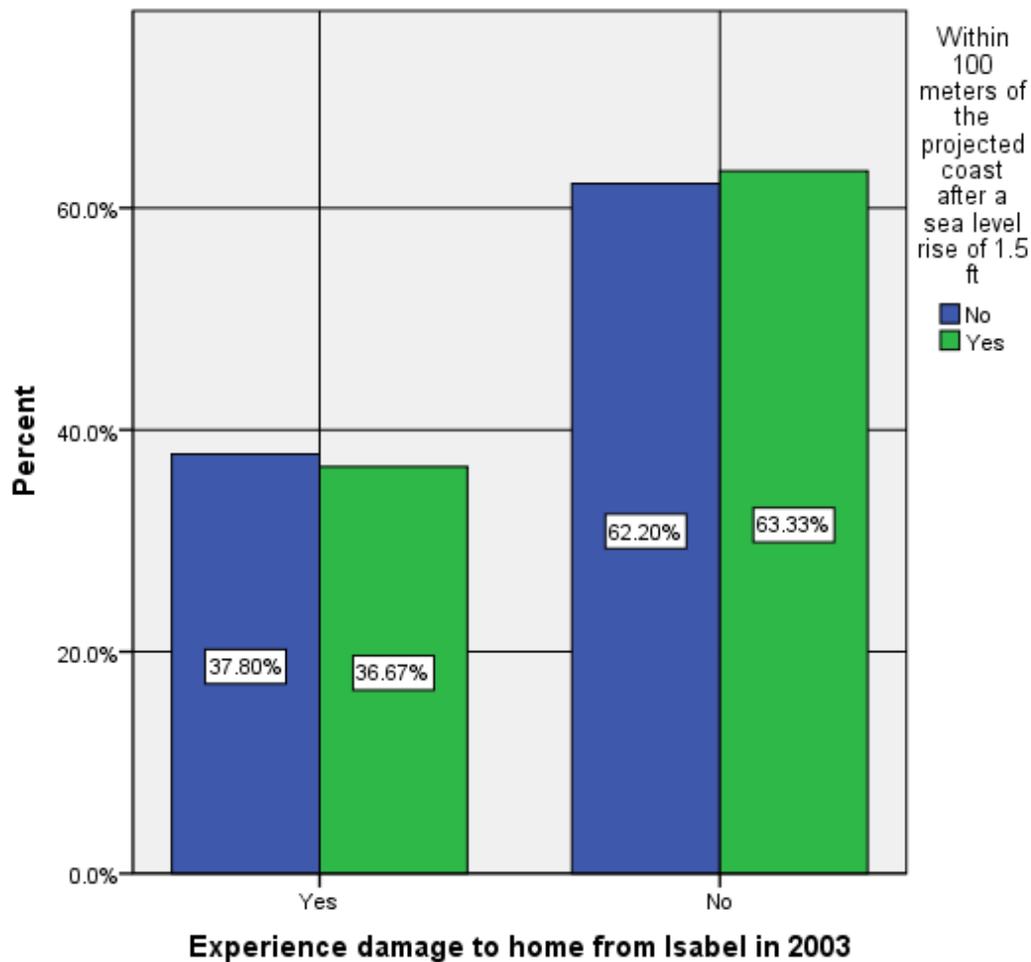
### Experienced Damage to Home from Isabel in 2003 .. by .. Within 100m of the Current Coast

Households that experienced Hurricane Isabel were asked whether or not they experienced any damage to their home. These responses are further disaggregated based on whether or not they are located within 100 meters of the current coastline. For those households located within 100 meters of the current coastline, nearly 29 percent report that they suffered damage, while about 71 percent report that they didn't suffer damage. For those households not located within 100 meters of the current coastline, about 39 percent report that they suffered damage and about 61 percent report that they didn't suffer damage.



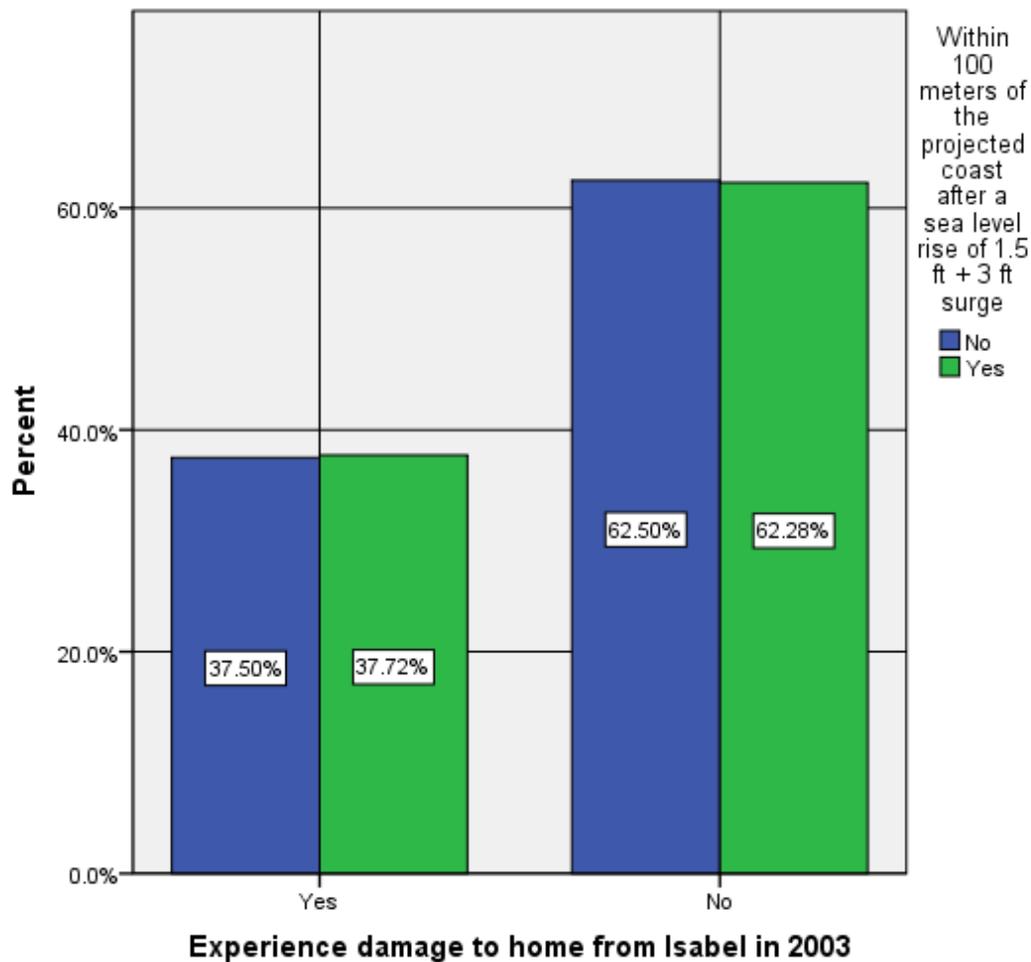
### Experienced Damage to Home from Isabel in 2003 .. by .. Within 100m of the Projected SLR Coast

Households that experienced Hurricane Isabel were asked whether or not they experienced any damage to their home. These responses are further disaggregated based on whether or not they are located within 100 meters of the projected coastline after a sea level rise (SLR) of 1.5 feet. For those households located within 100 meters of the projected SLR coastline, nearly 37 percent report that they suffered damage, while about 63 percent report that they didn't suffer damage. For those households not located within 100 meters of the projected SLR coastline, about 38 percent report that they suffered damage and about 62 percent report that they didn't suffer damage.



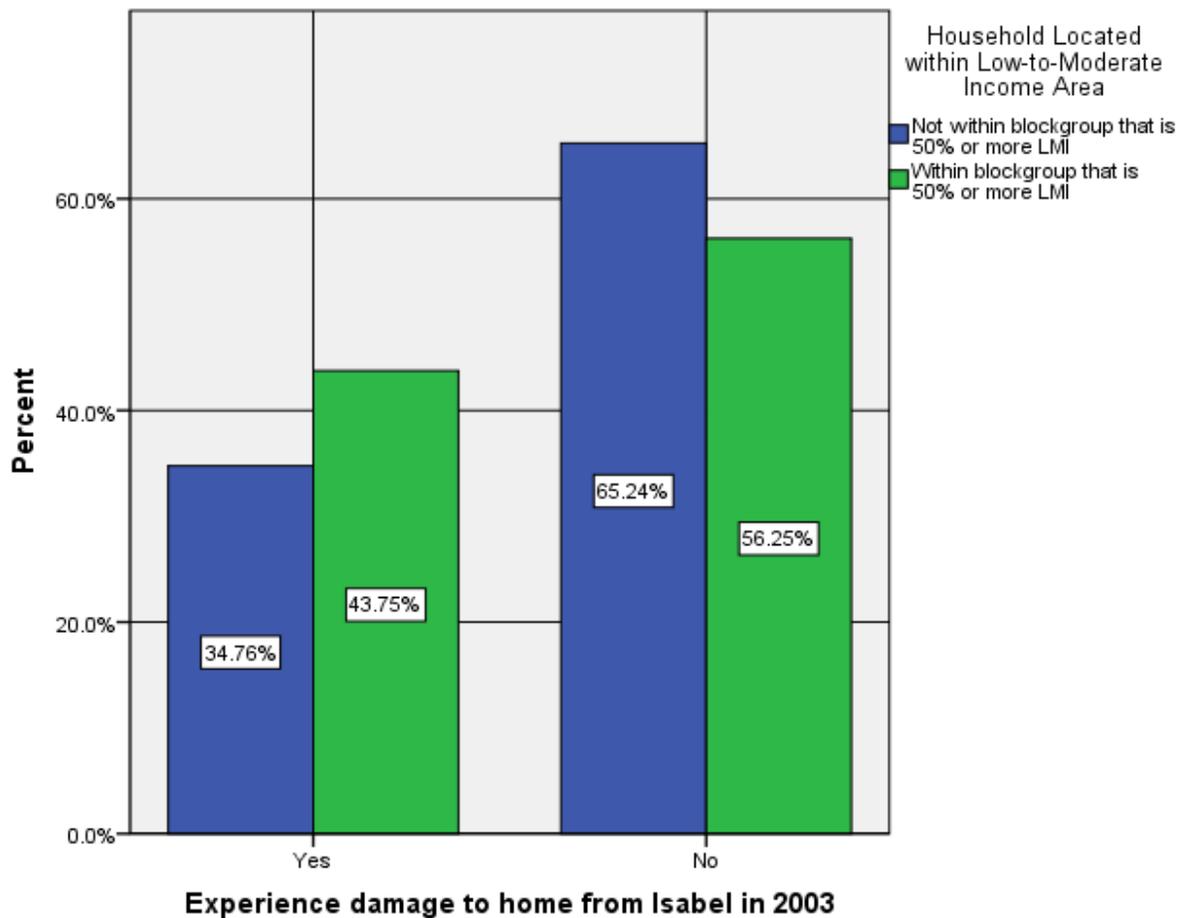
### Experienced Damage to Home from Isabel in 2003 .. by.. Within 100m of the Projects SLR+Surge Coast

Households that experienced Hurricane Isabel were asked whether or not they experienced any damage to their home. These responses are further disaggregated based on whether or not they are located within 100 meters of the projected coastline after a sea level rise (SLR) of 1.5 feet and a storm surge of 3 feet. For those households located within 100 meters of the projected SLR+Surge coastline, nearly 38 percent report that they suffered damage, while about 62 percent report that they didn't suffer damage. For those households not located within 100 meters of the projected SLR+Surge coastline, about 38 percent report that they suffered damage and about 62 percent report that they didn't suffer damage.



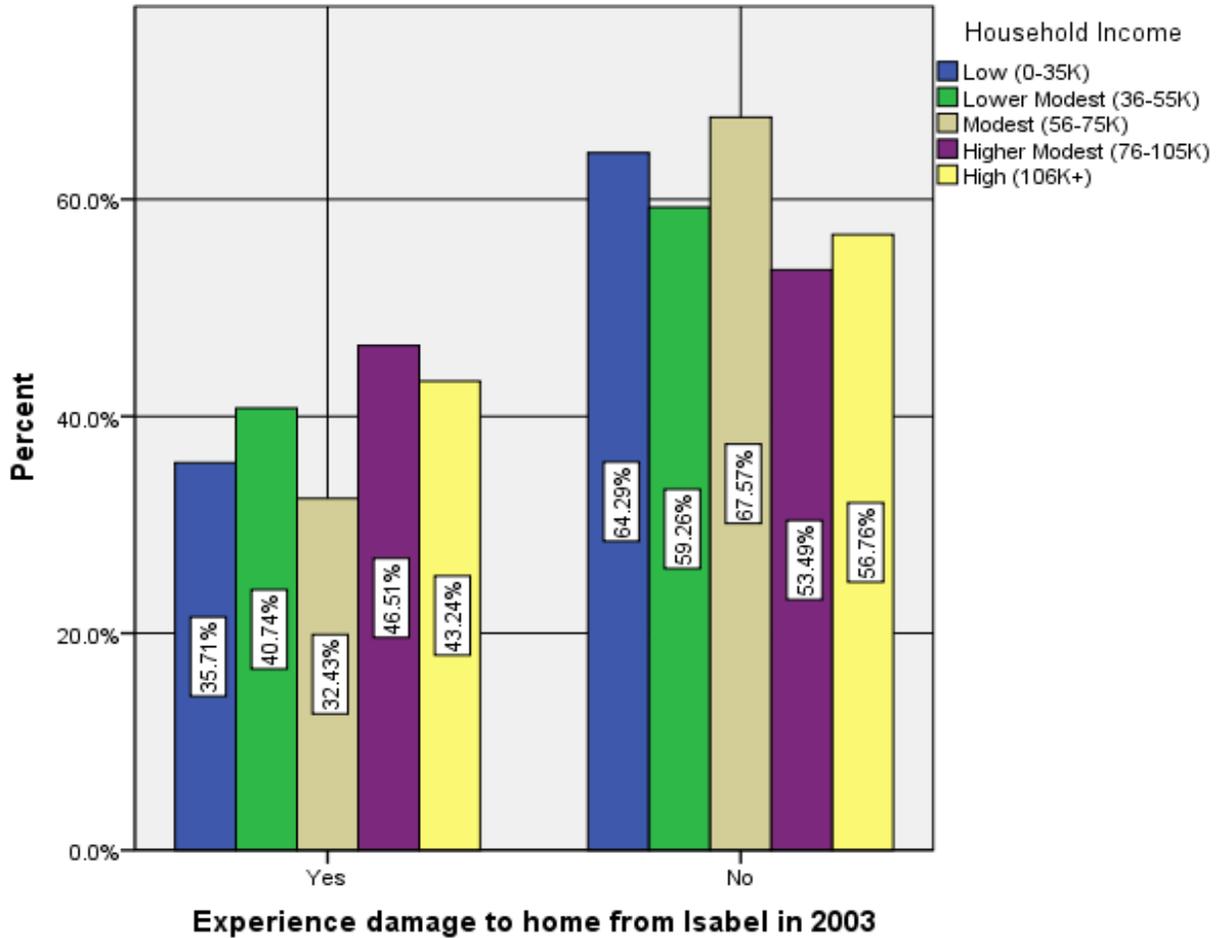
### Experienced Damage to Home from Isabel in 2003 .. by .. LMI Area

Households that experienced Hurricane Isabel were asked whether or not they experienced any damage to their home. These responses are further disaggregated by whether or not they are located within a low-to-moderate income block group. For those households located within a low-to-moderate income block group, nearly 44 percent report that they suffered damage, while about 56 percent report that they didn't suffer damage. For those households not located within a low-to-moderate income block group, about 35 percent report that they suffered damage and about 65 percent report that they didn't suffer damage.



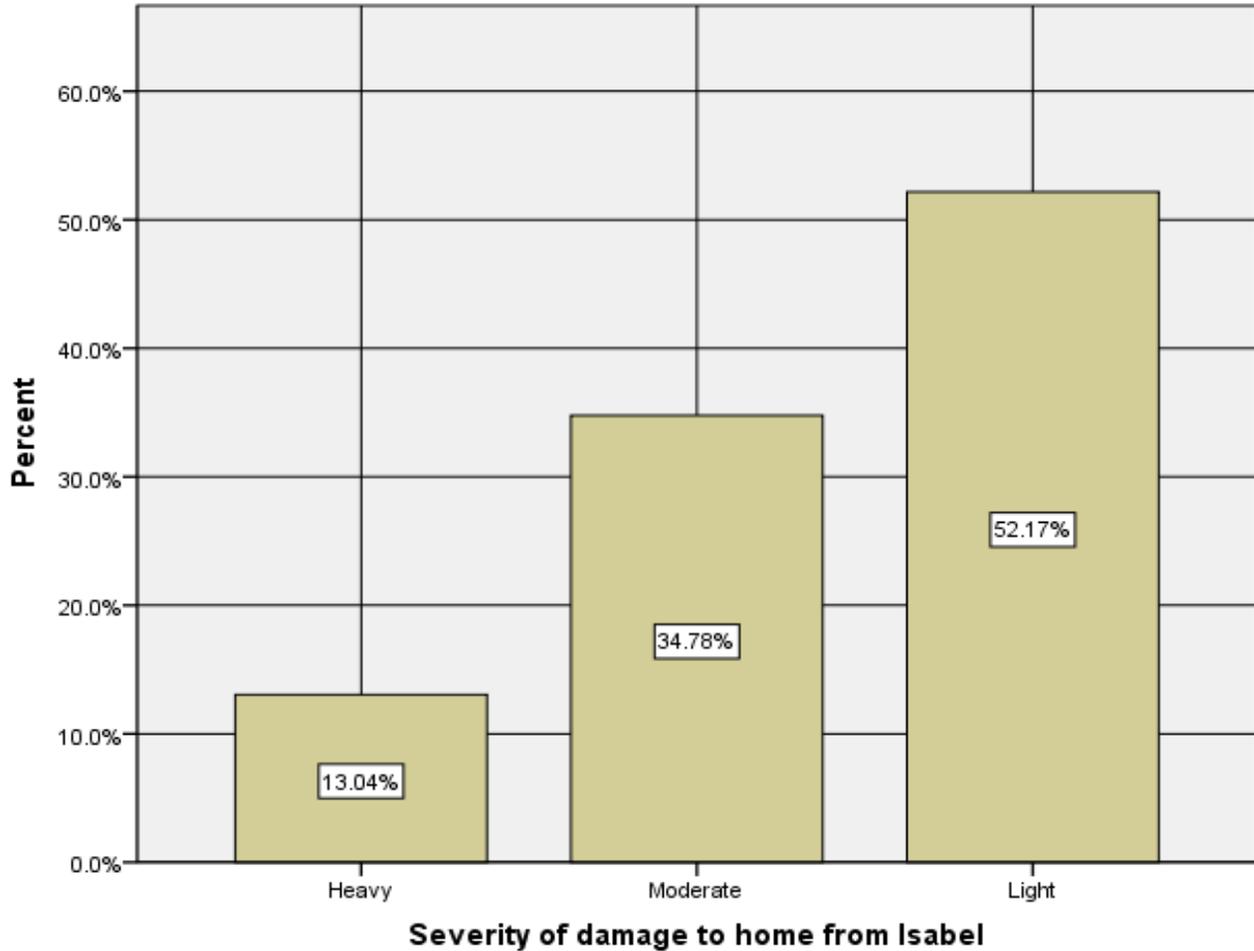
### Experienced Damage to Home from Isabel in 2003 .. by .. Income

Households that experienced Hurricane Isabel were asked whether or not they experienced any damage to their home. These responses are further disaggregated by household annual income. The following approximate percent of households report suffering damage: 36 percent low, 41 percent lower modest, 32 percent modest, 47 percent higher modest, and 43 percent high.



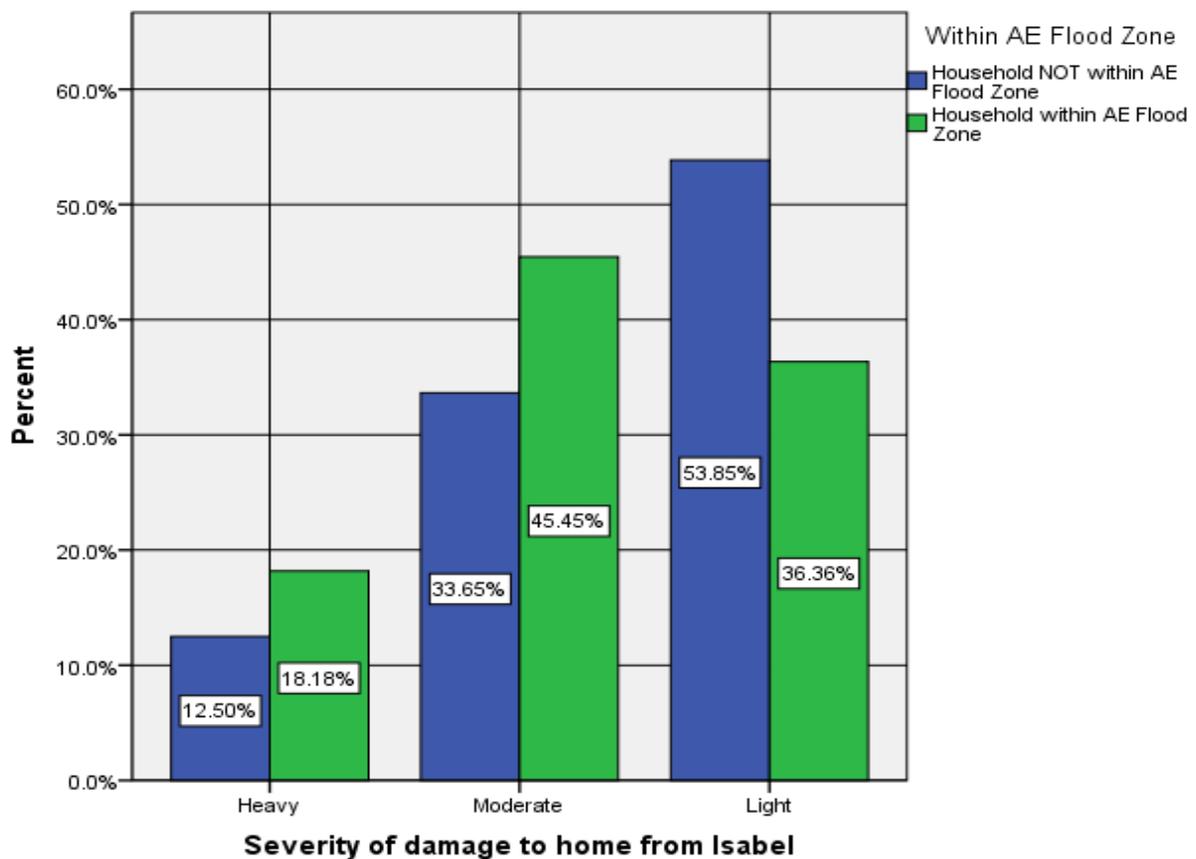
### Severity of Damage to Home from Isabel in 2003

Households that both experienced Hurricane Isabel and reported damage were asked to judge the severity of the damage to their home on a scale of heavy, moderate, or light damage. The following approximate percent of households report the following judgments of severity: 13 percent heavy, 35 percent moderate, and 52 percent light.



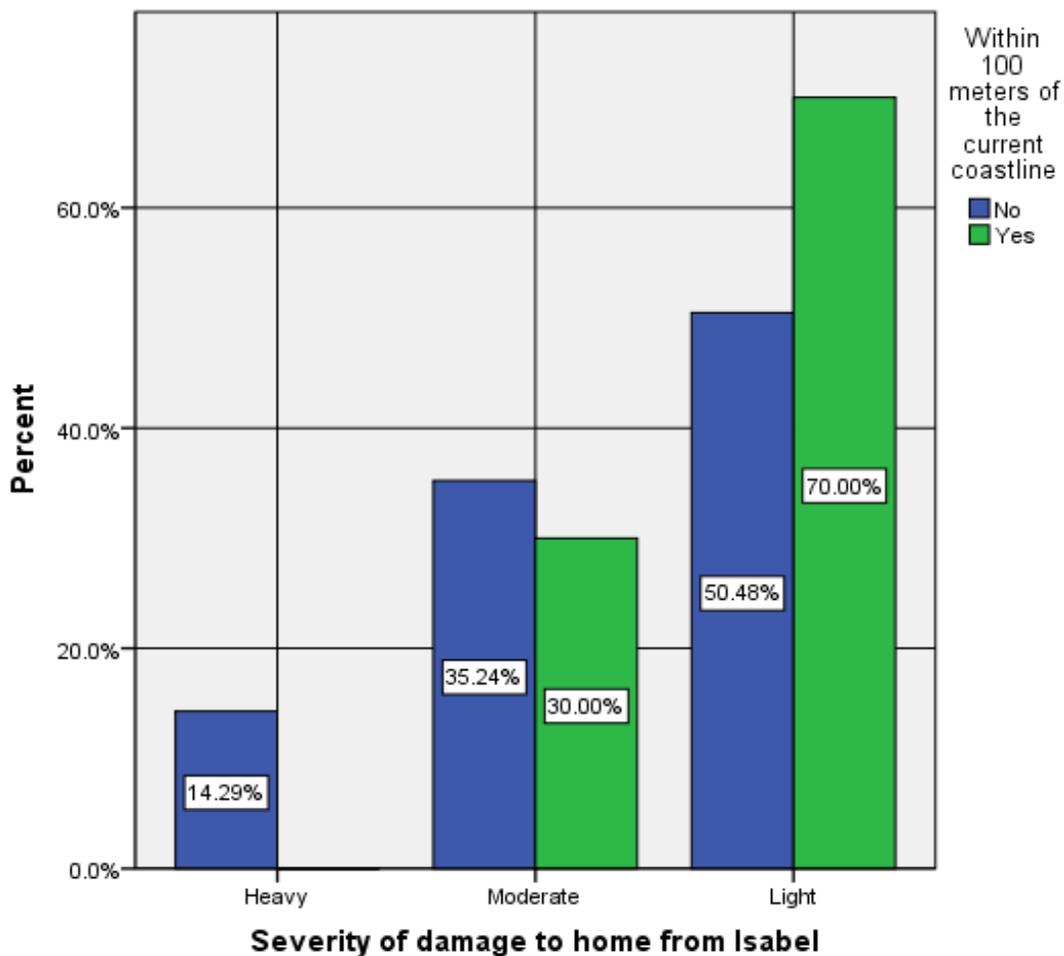
### Severity of Damage to Home from Isabel in 2003 .. by .. AE Flood Zone

Households that both experienced Hurricane Isabel and reported damage were asked to judge the severity of the damage to their home on a scale of heavy, moderate, or light damage. These responses are further disaggregated by whether or not they are located within an AE flood zone. Within the AE Flood Zone the following approximate percent of households report the following judgments of severity: 18 percent heavy, 45 percent moderate, and less than 37 percent light. Not within the AE Flood Zone the following approximate percent of households report the following judgments of severity: 13 percent heavy, 34 percent moderate, and more than 53 percent light.



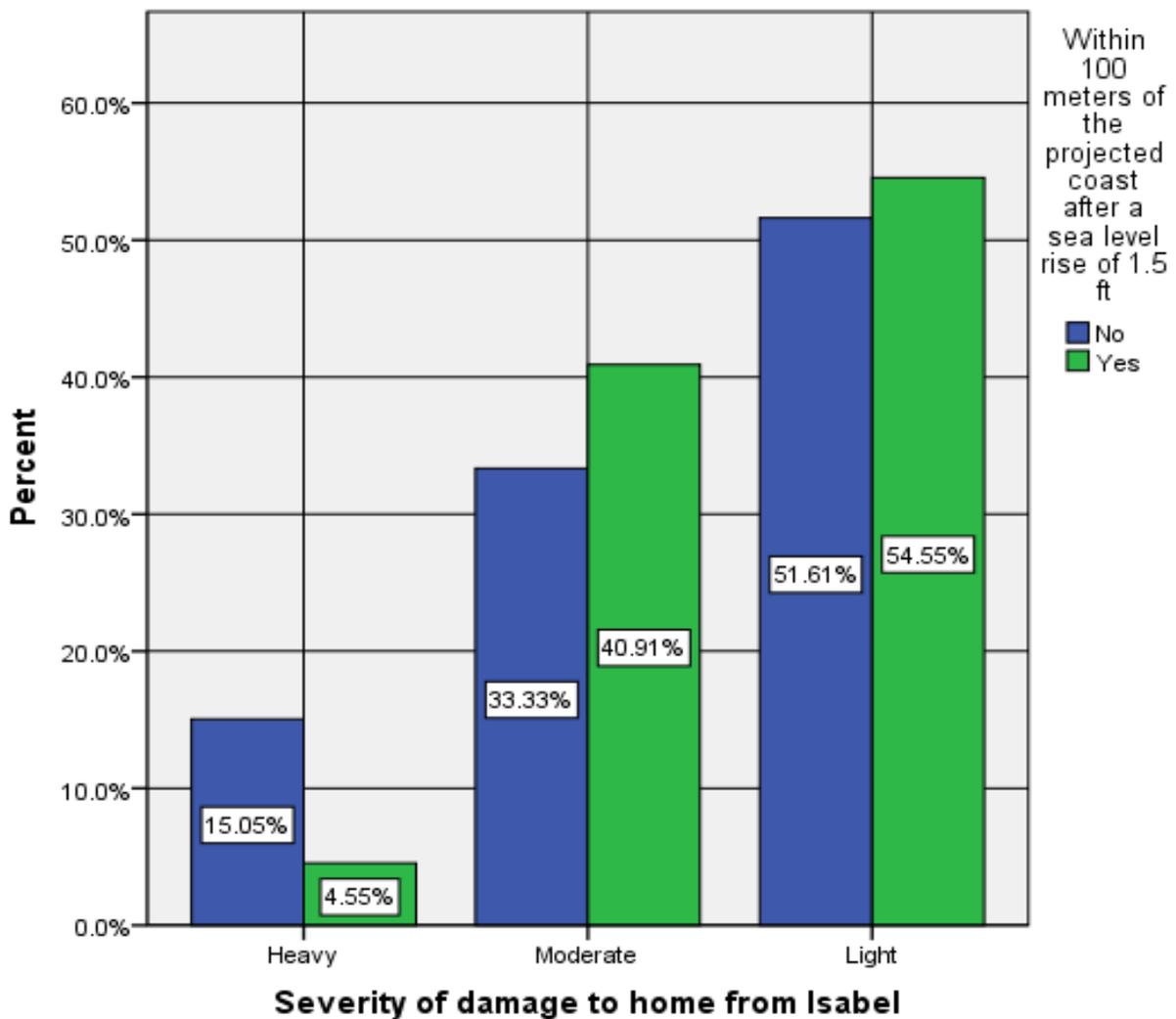
### Severity of Damage to Home from Isabel in 2003 .. by .. Within 100m of the Current Coast

Households that both experienced Hurricane Isabel and reported damage were asked to judge the severity of the damage to their home on a scale of heavy, moderate, or light damage. These responses are further disaggregated by whether or not they are located within 100 meters of the current coastline. Within 100 meters of the current coastline the following approximate percent of households report the following judgments of severity: 0 percent heavy, 30 percent moderate, and 70 percent light. Not within 100 meters of the current coastline the following approximate percent of households report the following judgments of severity: 14 percent heavy, 35 percent moderate, and less than 51 percent light.



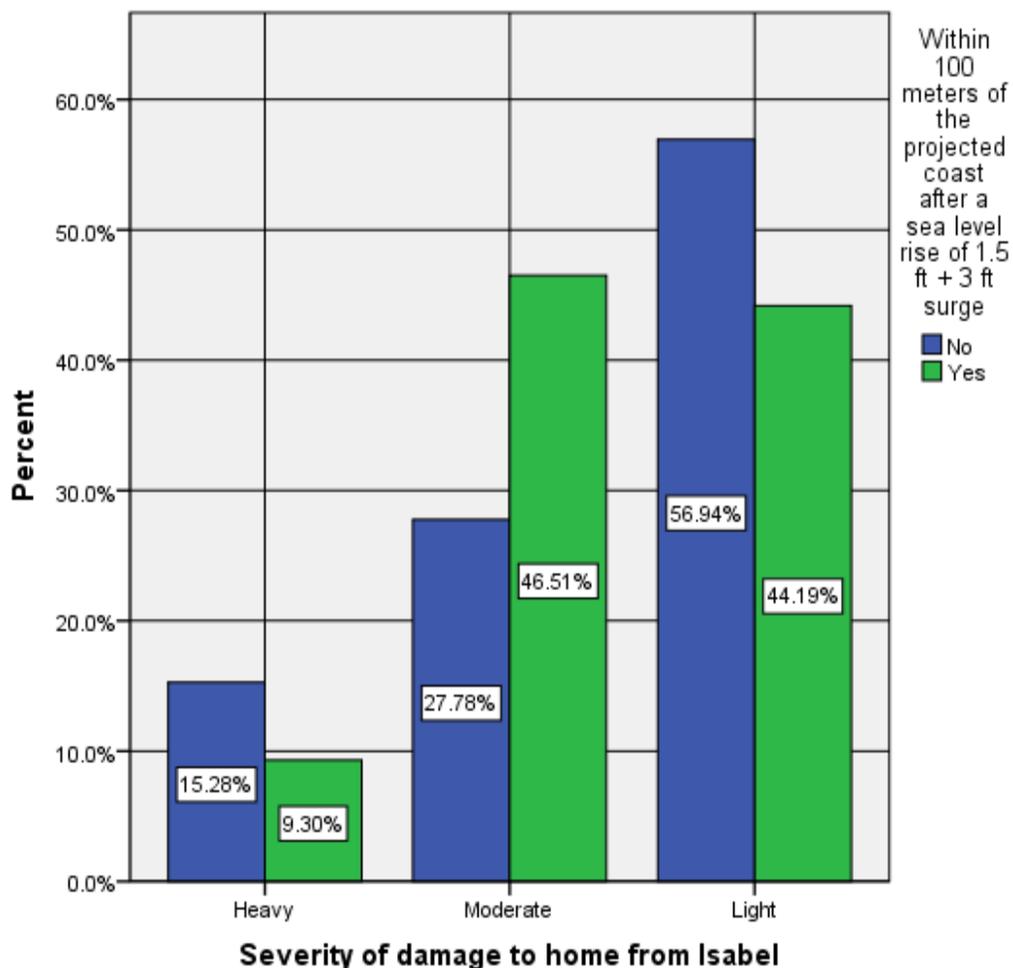
### Severity of Damage to Home from Isabel in 2003 .. by .. Within 100m of the Projected SLR Coast

Households that both experienced Hurricane Isabel and reported damage were asked to judge the severity of the damage to their home on a scale of heavy, moderate, or light damage. These responses are further disaggregated by whether or not they are located within 100 meters of the current coast after a sea level rise (SLR) of 1.5 feet. Within 100 meters of the projected SLR coastline the following approximate percent of households report the following judgments of severity: 5 percent heavy, 41 percent moderate, and 54 percent light. Not within 100 meters of the projected SLR coastline the following approximate percent of households report the following judgments of severity: 15 percent heavy, 33 percent moderate, and 52 percent light.



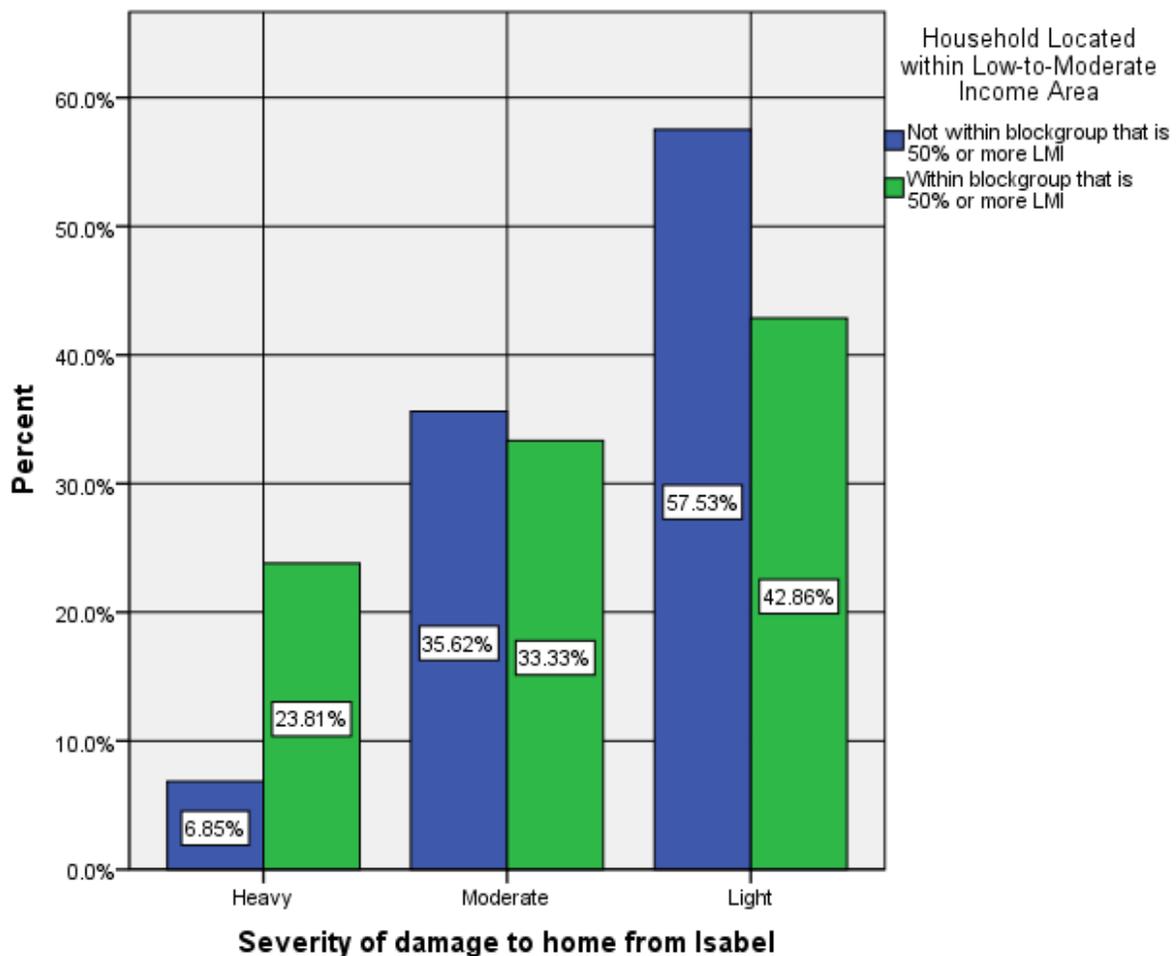
## Severity of Damage to Home from Isabel in 2003 .. by.. Within 100m of the Projects SLR+Surge Coast

Households that both experienced Hurricane Isabel and reported damage were asked to judge the severity of the damage to their home on a scale of heavy, moderate, or light damage. These responses are further disaggregated by whether or not they are located within 100 meters of the current coast after a sea level rise (SLR) of 1.5 feet and a storm surge of 3 feet. Within 100 meters of the projected SLR+Surge coastline the following approximate percent of households report the following judgments of severity: 9 percent heavy, 47 percent moderate, and 44 percent light. Not within 100 meters of the projected SLR+Surge coastline the following approximate percent of households report the following judgments of severity: 15 percent heavy, 28 percent moderate, and 57 percent light.



### Severity of Damage to Home from Isabel in 2003 .. by .. LMI Area

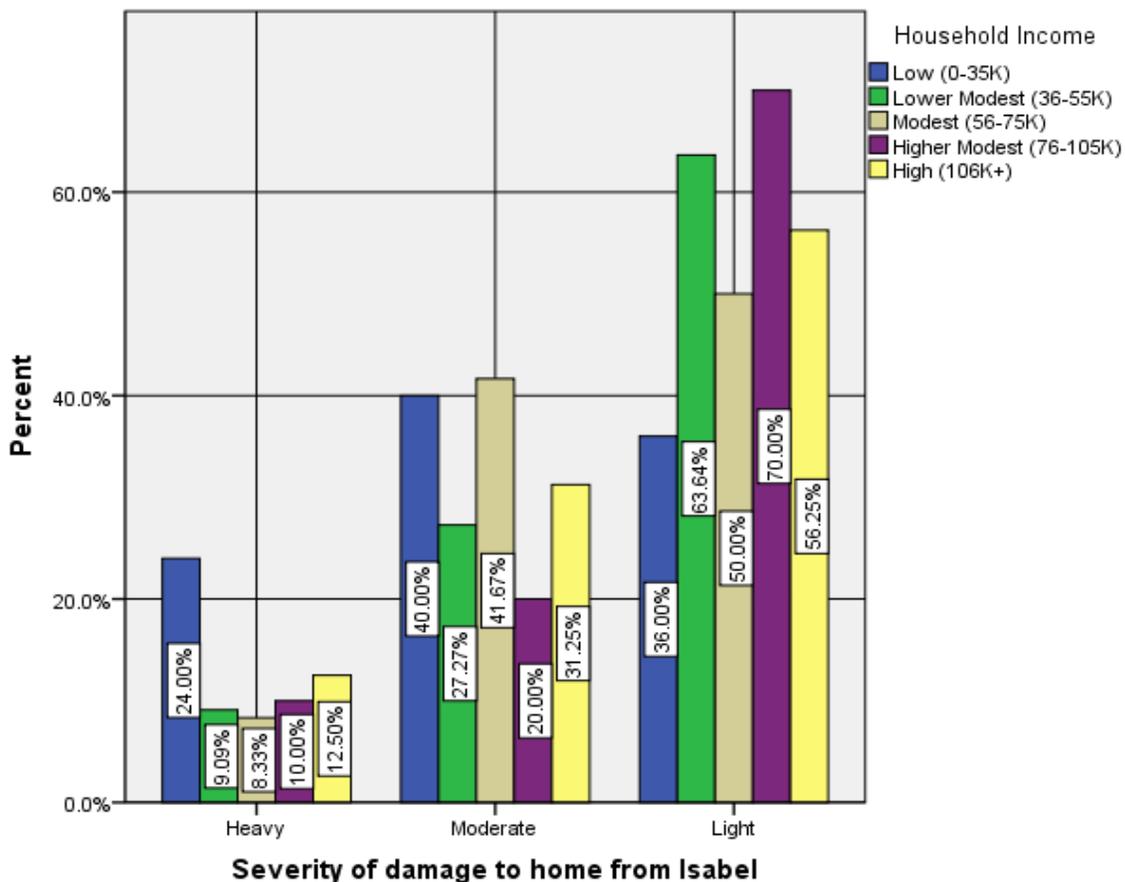
Households that both experienced Hurricane Isabel and reported damage were asked to judge the severity of the damage to their home on a scale of heavy, moderate, or light damage. These responses are further disaggregated by whether or not they are located within a low-to-moderate income block group. Within a low-to-moderate income block group the following approximate percent of households report the following judgments of severity: 24 percent heavy, 33 percent moderate, and 43 percent light. Not within a low-to-moderate income block group the following approximate percent of households report the following judgments of severity: 7 percent heavy, 36 percent moderate, and more than 57 percent light.



## Severity of Damage to Home from Isabel in 2003 .. by .. Income

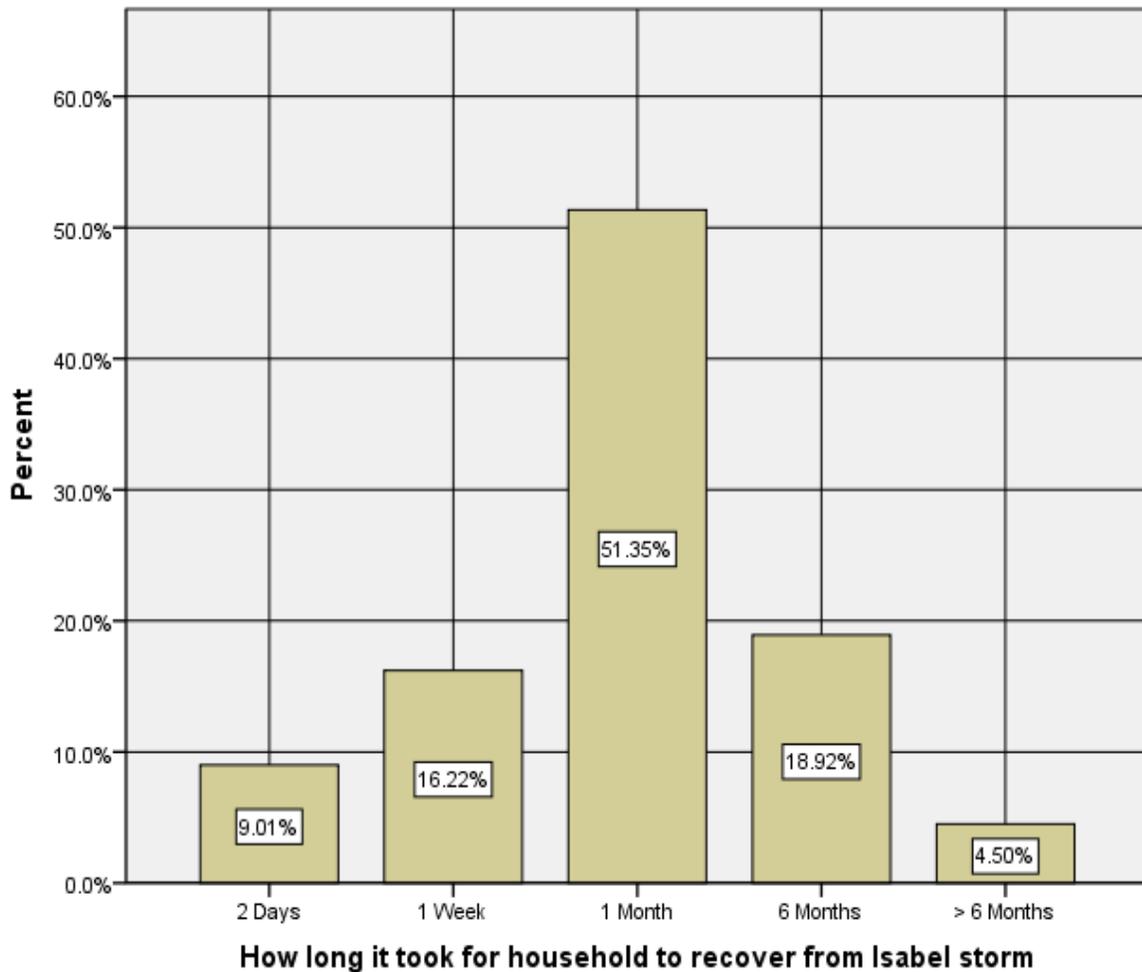
Households that both experienced Hurricane Isabel and reported damage were asked to judge the severity of the damage to their home on a scale of heavy, moderate, or light damage. These responses are further disaggregated by average annual income. The following approximate percent of households report the following judgments of severity:

- Low: 24 percent heavy, 40 percent moderate, and 36 percent light
- Lower Modest: 9 percent heavy, 27 percent moderate, and 64 percent light
- Modest: 8 percent heavy, 42 percent moderate, and 50 percent light
- Higher Modest: 10 percent heavy, 20 percent moderate, and 70 percent light
- High: 13 percent heavy, 31 percent moderate, and 56 percent light



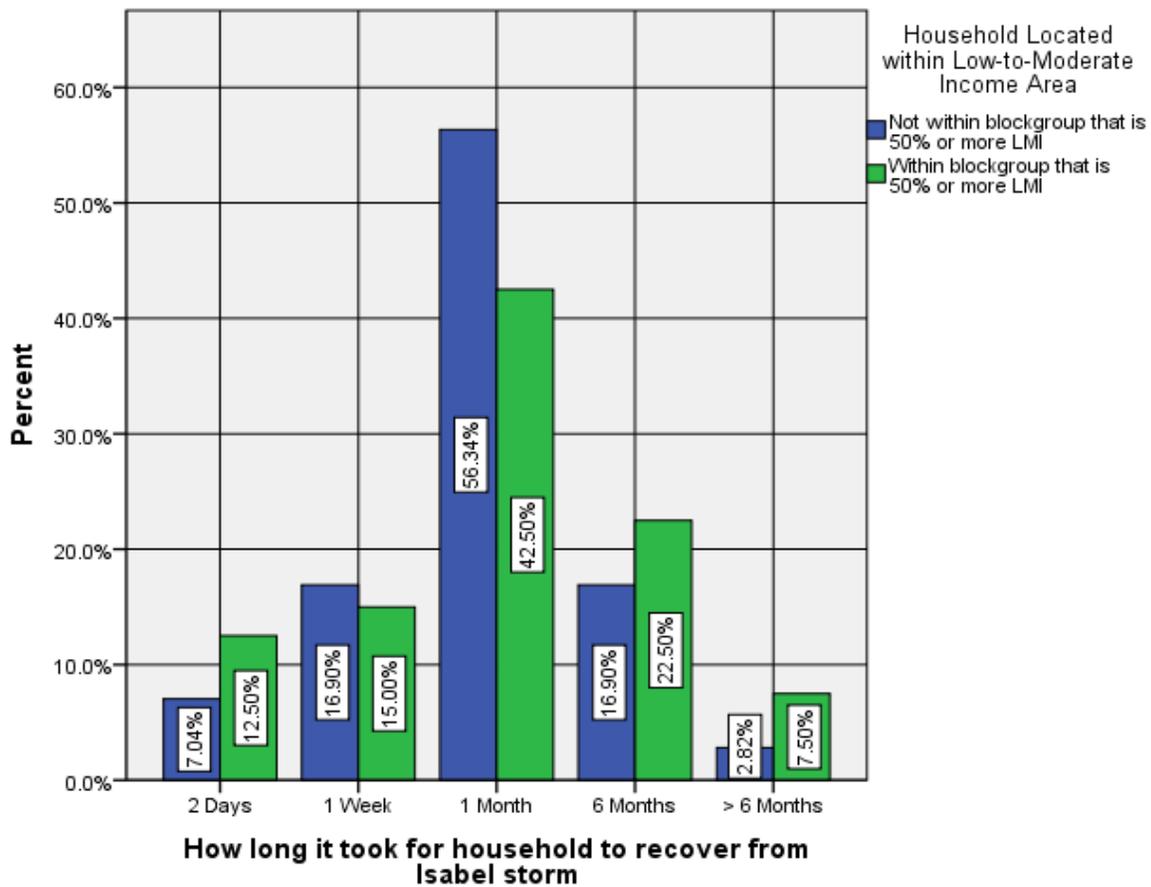
### Time it Took to Recover from Isabel in 2003

Households that both experienced Hurricane Isabel and reported suffering damage were further asked how long it took to recover from the storm damage and its aftermath. The recovery times are: 9 percent took two days, 16 percent took one week, 51 percent took one month, 19 percent took six months, and 5 percent took more than six months.



### Time it Took to Recover from Isabel in 2003 .. by .. LMI Area

Households that both experienced Hurricane Isabel and reported suffering damage were further asked how long it took to recover from the storm damage and its aftermath. These responses are further disaggregated by whether or not they are located within a low-to-moderate income block group. Within a low-to-moderate income block group the following approximate percent of households report the following recovery times: 13 percent took two days, 15 percent took one week, 42.5 percent took one month, 22.5 percent took six months, and more than 7 percent took more than six months. Not within a low-to-moderate income block group the following approximate percent of households report the following recovery times: 7 percent took two days, 16.9 percent took one week, 56.34 percent took one month, 16.9 percent took six months, and 2.82 percent took more than six months.

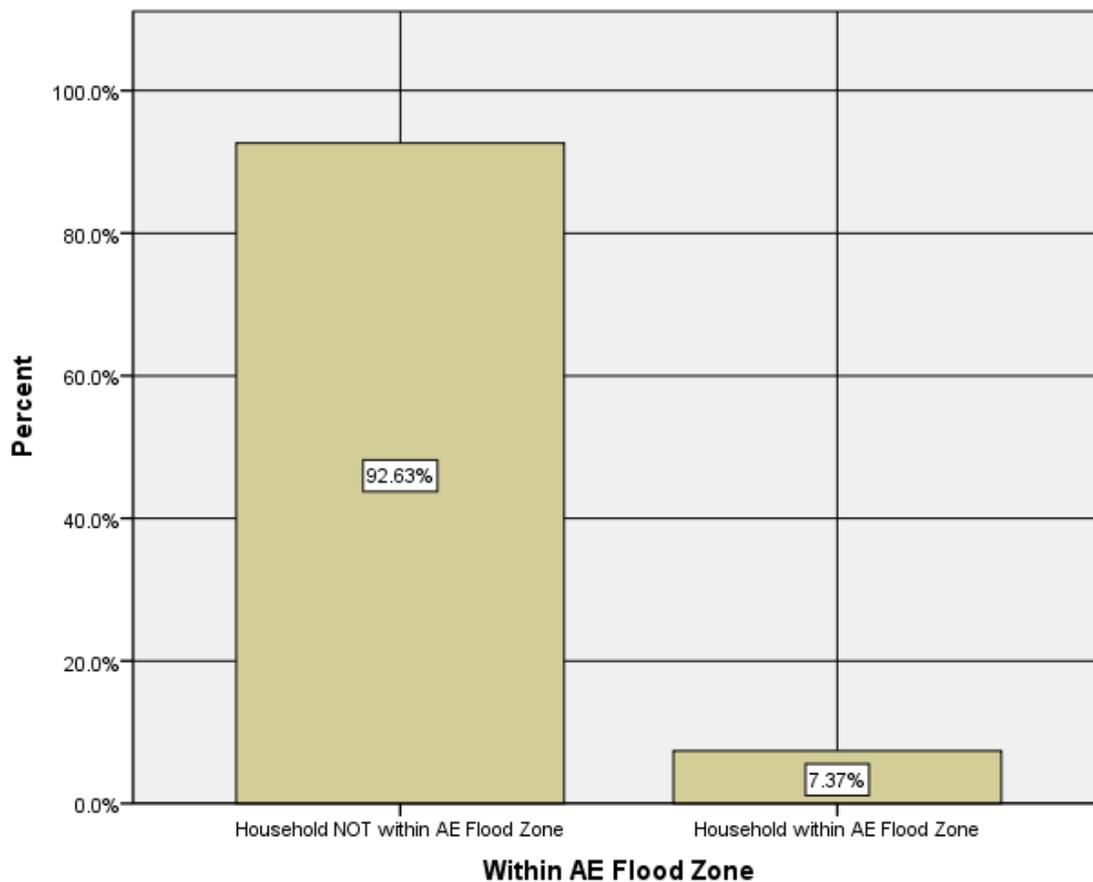


## Household Proximity Characteristics

Key variables detailed in this Report are further disaggregated by the household characteristic of being located either within or outside particular coastal zones or buffers. Below are four charts that provide general descriptive statistics for the distribution of these households within AE flood zones, within 100 meter buffer along the current coastline, within 100 meter buffer along the projected sea level rise coastline, and within 100 meter buffer along the projected sea level rise + surge coastline.

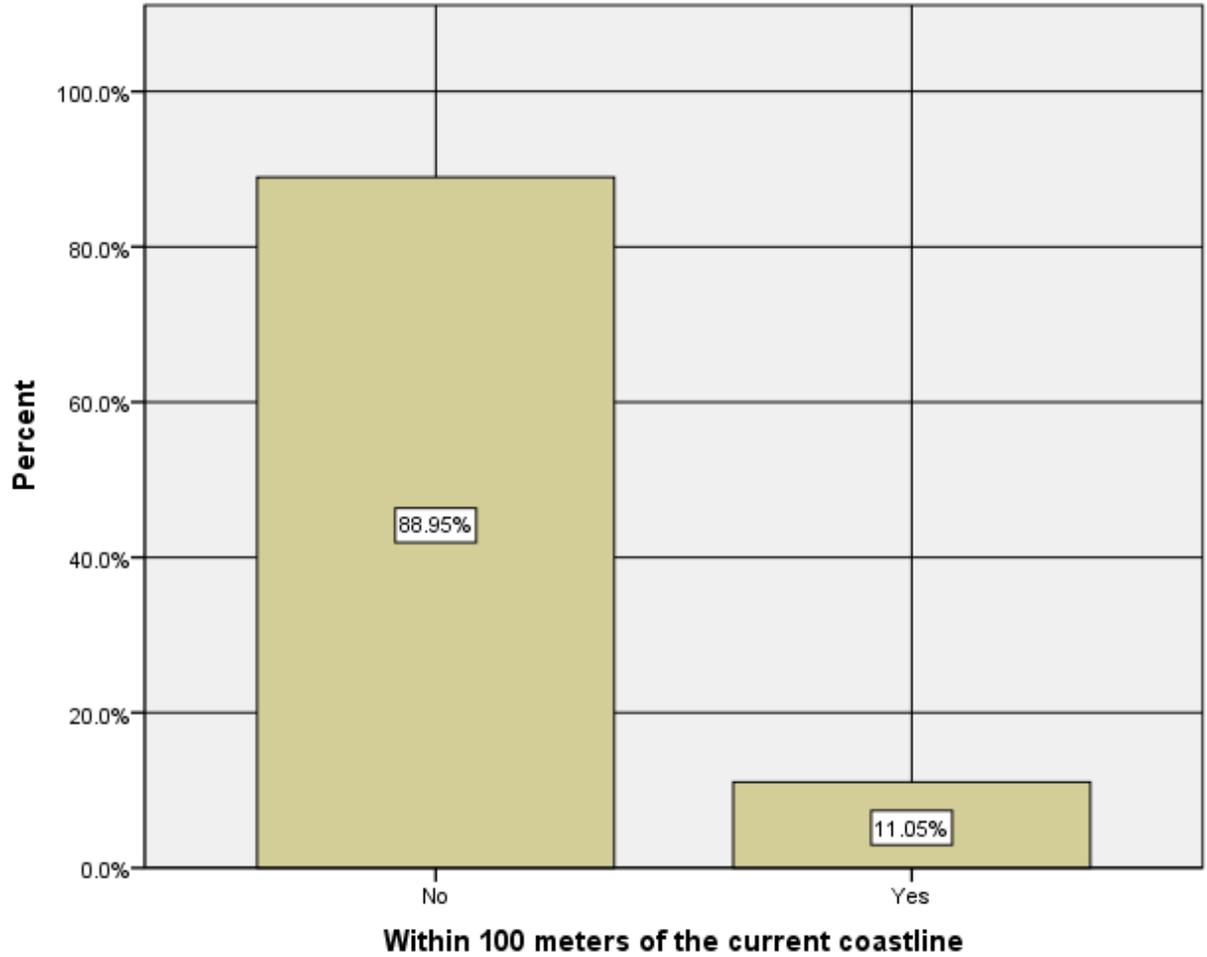
### Household within AE Flood Zone

Households are identified as residing either within or outside AE flood zones. Over 7 percent of the households are within the AE Flood Zone.



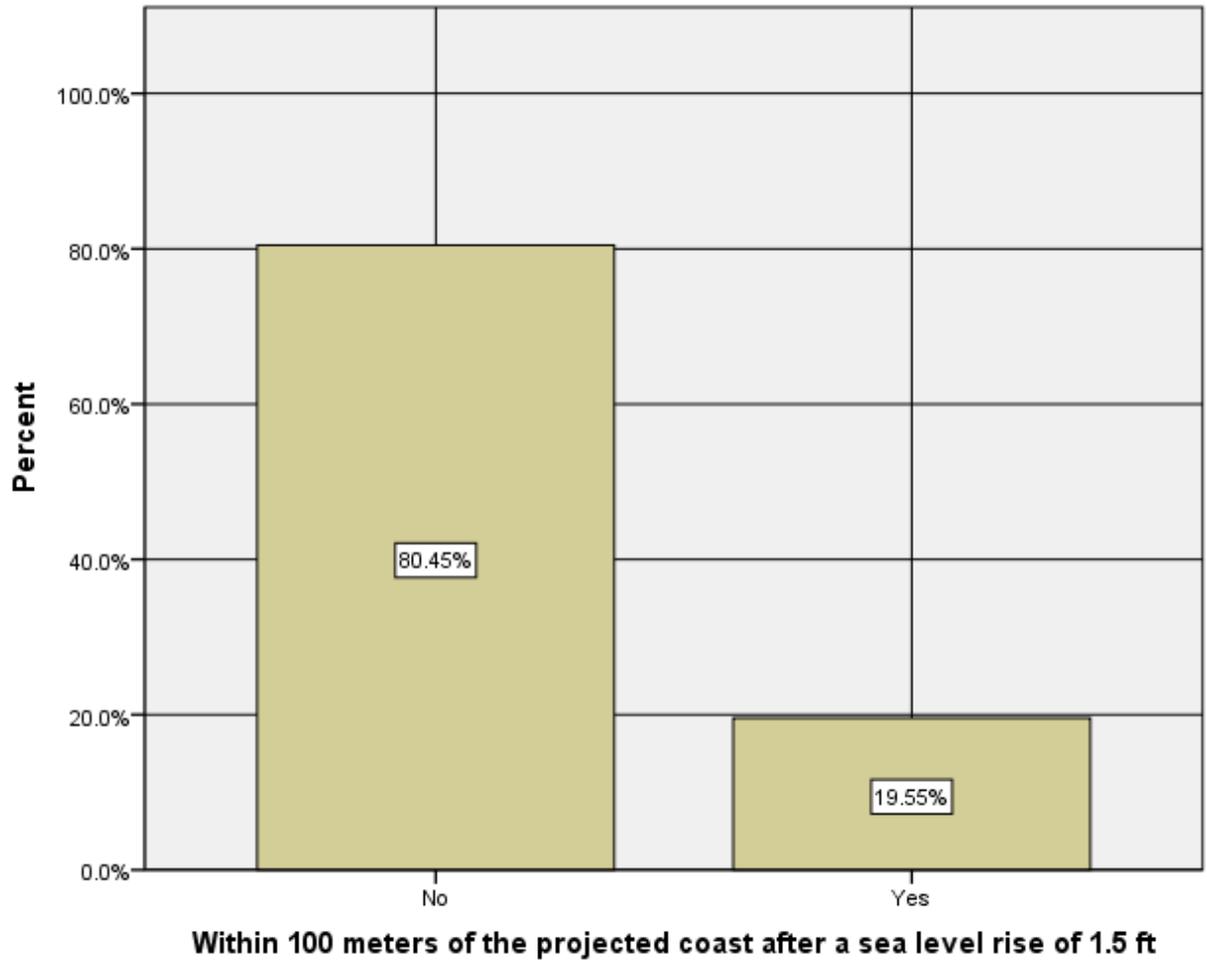
### Household within 100 Meters of the Current Coastline

Respondents' nearest cross streets are located either within or outside an area within 100 meters of the coastline. Slightly over 11 percent of the households are within 100 meters of the current coastline.



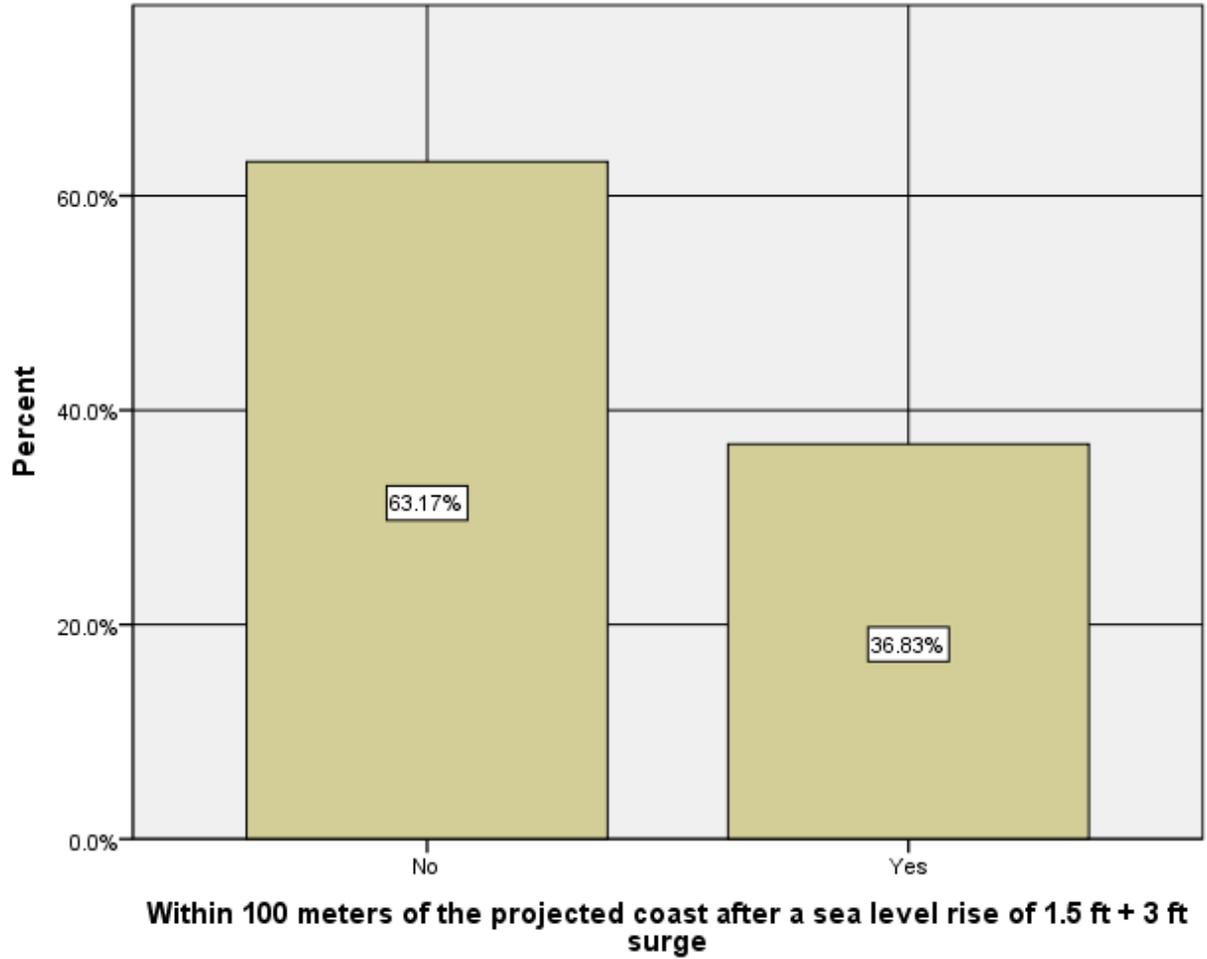
### Household within 100 Meters of the Projected SLR Coastline

Respondents' nearest cross streets are located either within or outside an area within 100 meters of the projected SLR coastline. Almost 20 percent of households are within 100 meters of the projected coastline.



### Household within 100 Meters of the Projected SLR+Surge Coastline

Respondents' nearest cross streets are located either within or outside an area within 100 meters of the projected SLR+Surge coastline. Almost 37 percent of households are within 100 meters of the projected sea level rise + surge coastline.

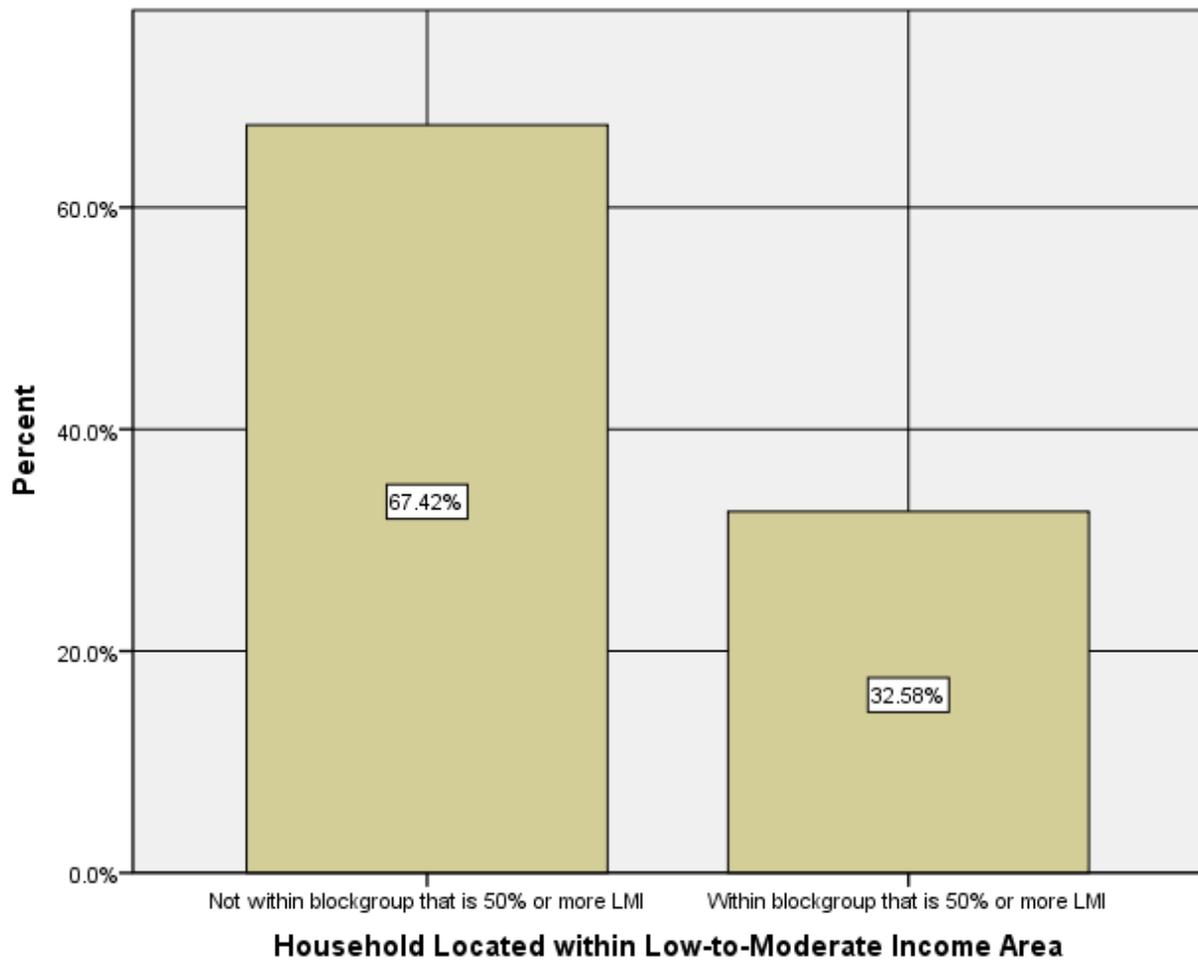


### Household Within Low-to-Moderate Income (LMI) Area

Key variables detailed in this Report are further disaggregated by the household characteristic of being located either within or outside a Census block group that has been identified as low-to-moderate income. Below are two charts that provide general descriptive statistics for the distribution of these households.

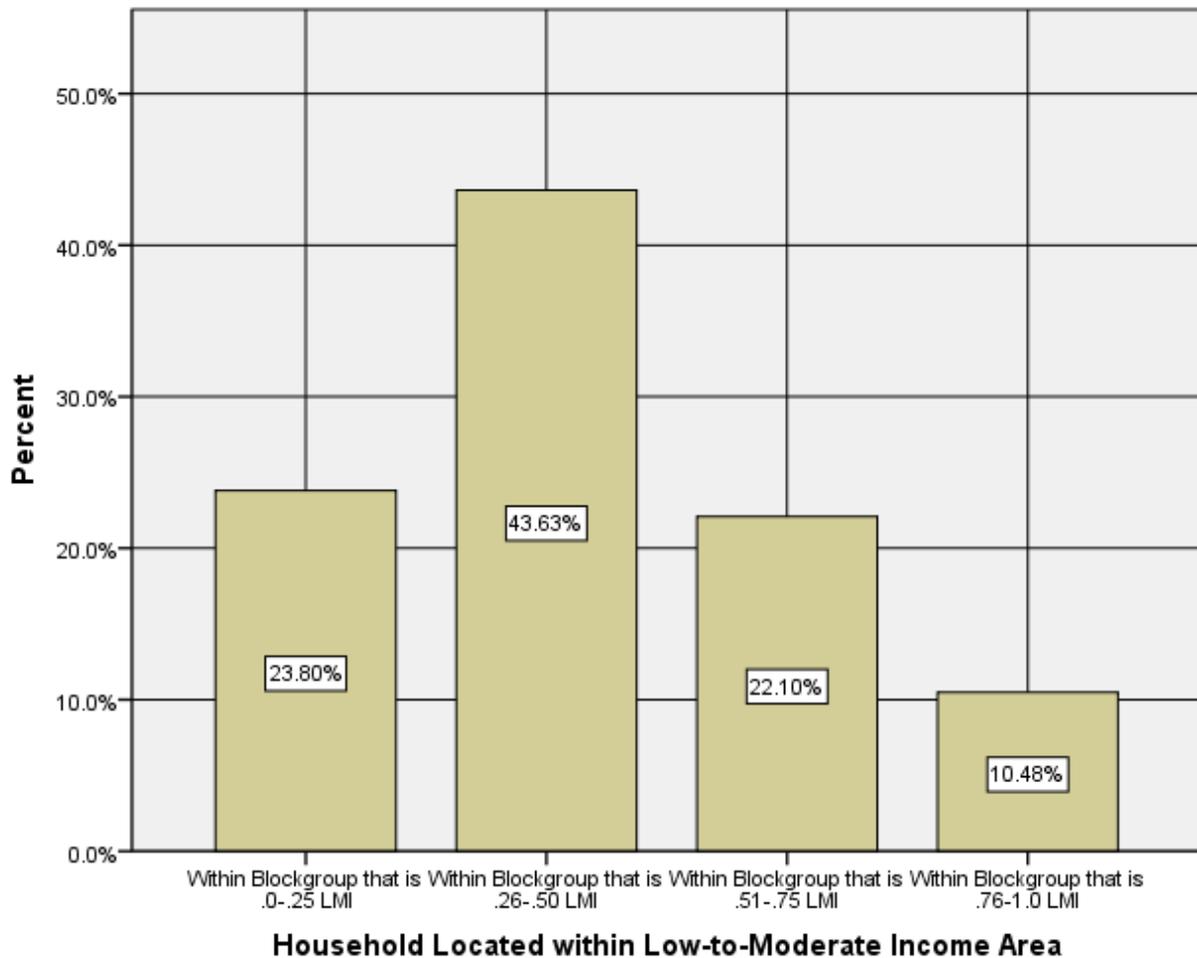
### Household within Low-to-Moderate Income Area (50 Percent Break)

Census block groups within Portsmouth are identified as being either or not 50 percent low-to-moderate income (LMI). Respondents nearest cross streets are identified as being either or not located within one of these 50 percent LMI areas. Almost 33 percent of respondent households are located within a 50 percent LMI block group.



### Household within Low-to-Moderate Income Area (25 Percent Break)

Census block groups within Portsmouth are further identified as being one or four income areas. Approximately 24 percent of respondent households are within a block group that is 0-25 percent low-to-moderate income, almost 44 percent within a block group that is 26-50 percent low-to-moderate income, over 22 percent within a block group that is 51-75 percent low-to-moderate income, and over 10 percent are within a block group that is 76-100 percent low-to-moderate income.

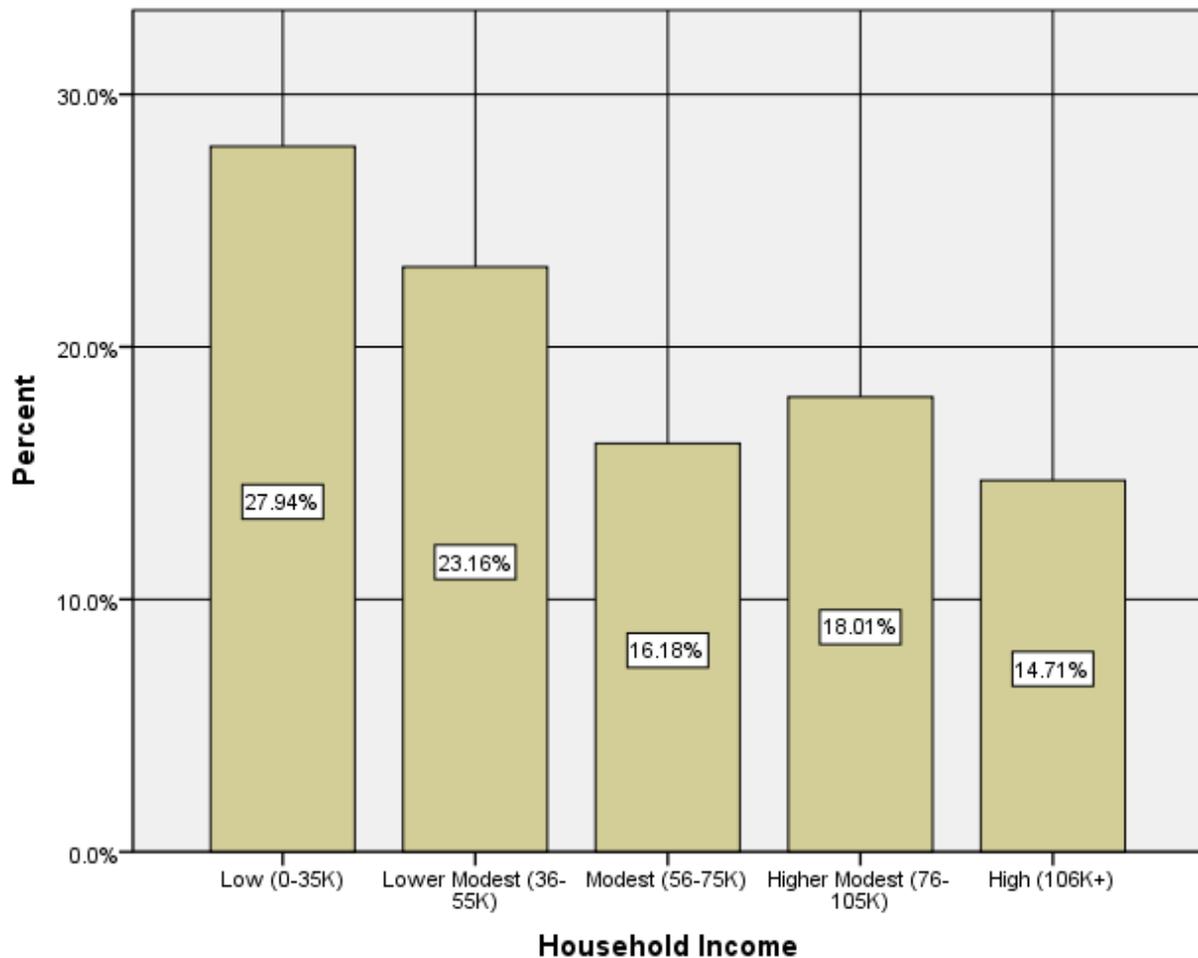


## Household Income Distribution

Key variables detailed in this Report are further disaggregated by the characteristic of self-reported annual income. Below is a single chart that provides general descriptive statistics for the distribution of these households.

### Households Annual Income Ranges

Respondents self-reported annual household income. Households are divided into five annual income ranges. The following approximate percent of households fall into one of five income ranges: 28 percent low (\$0 - \$35,000), 23 percent lower modest (\$36,000 - \$55,000), 16 percent modest (\$56,000 - \$75,000), 18 percent higher modest (\$76,000 - \$105,000), and 15 percent high (\$106,000 or greater).

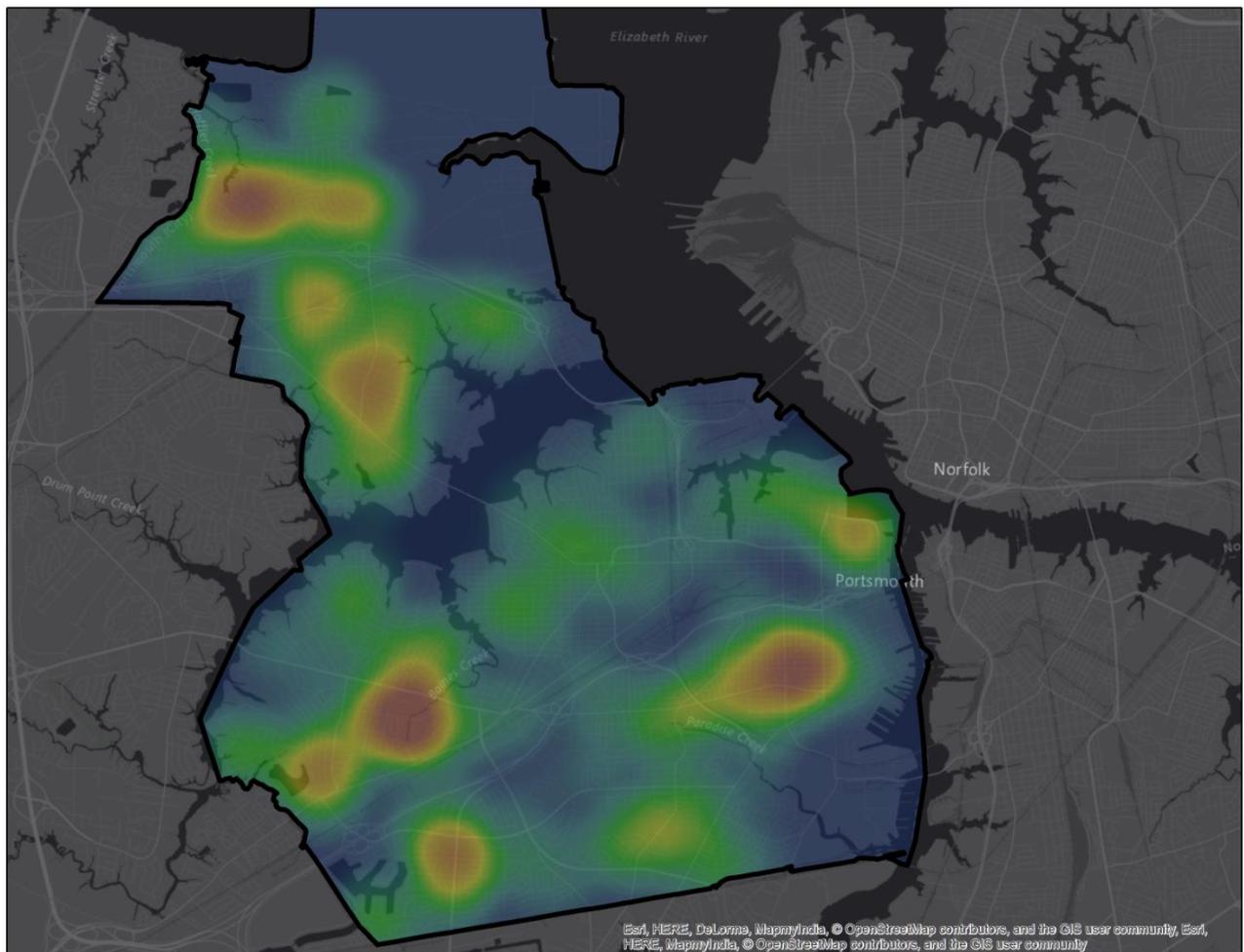


## Vulnerability Heat Maps

### Preparation

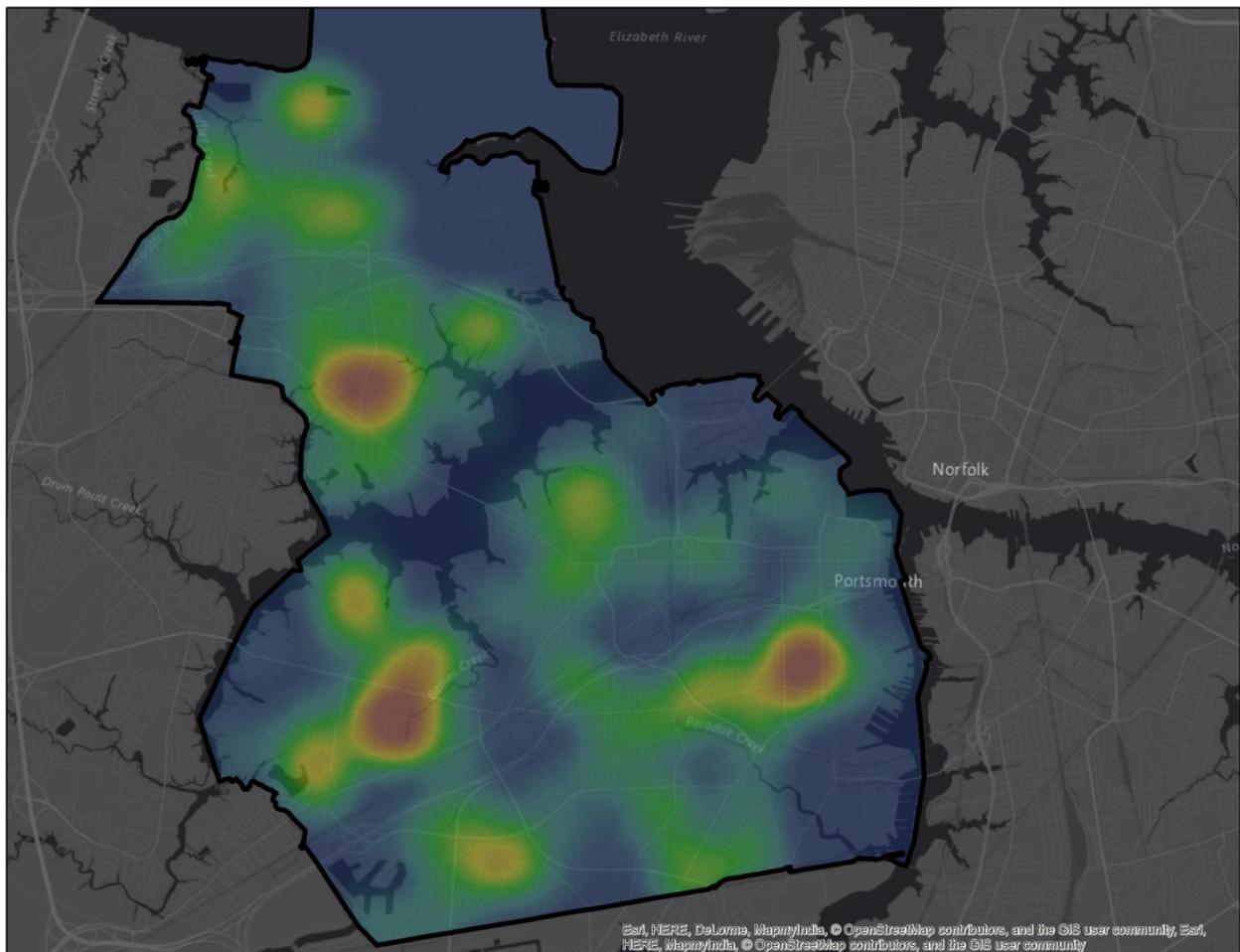
Households that shelter in place may engage in mitigation efforts to lessen the probability of suffering privation and injury. Preparations are provisions or measures taken in expectation that normal networks of commerce and public assistance will likely be disrupted. Several of the most commonly engaged activities are intuitive, have been widely recommended, and are intended to reduce the post-event dependence on emergency services. Those households that are less likely to prepare are vulnerable to the adverse impact of the event. A weighted combination of the following indicators has been used:

1. Household had enough food & water to feed everybody for a week.
2. Household owns generator.
3. Household has emergency first aid kit.



## Fatalism

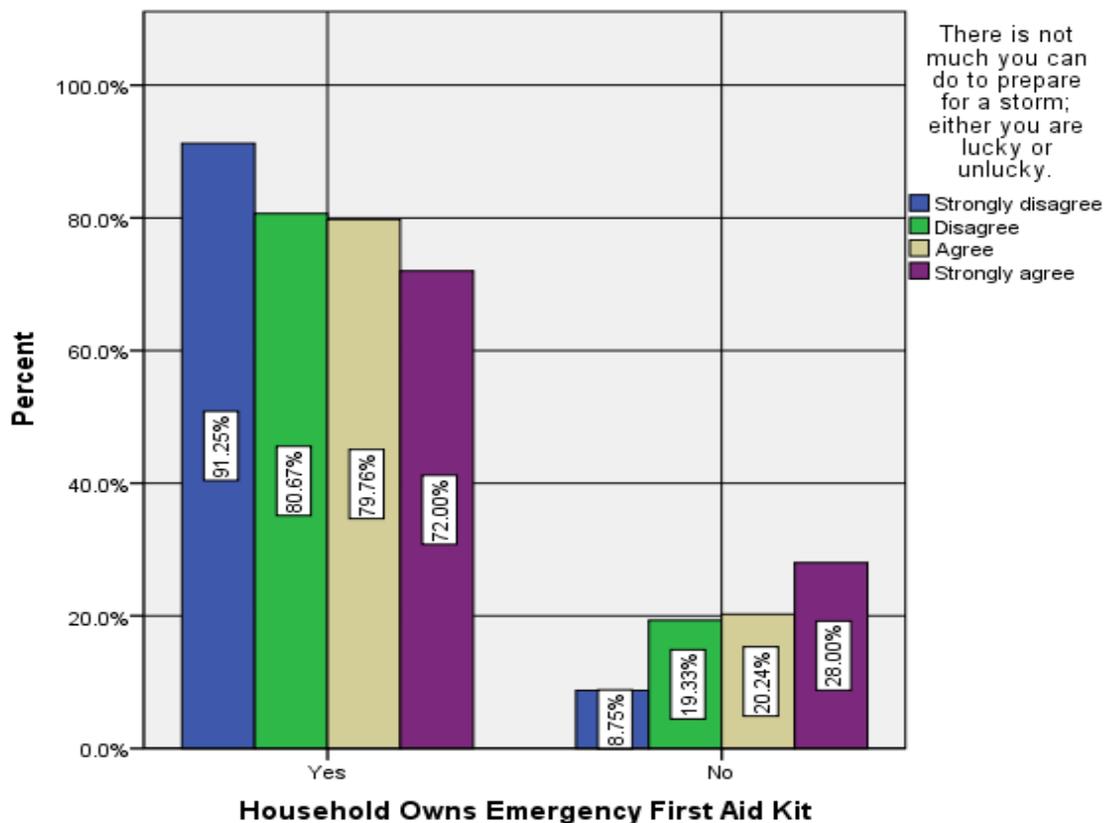
Some households invest very little in mitigation either in the form of evacuation, securing property in the face of an impending storm, or taking necessary steps to stock food and water. The refusal to prepare for a storm stems from denial that the event will occur, wishful thinking about the significance of the event, and a sense of fatalism about the ability to mitigate the impact of the event. Collectively, we refer to this as ‘fatalism.’ A fatalistic tendency is associated with helplessness and is one in which much of the impact of the event is seen as an unavoidable consequence of the event itself. Past experience with storms that are less severe may engender complacency, a false sense of security in dealing with the storm, and feed skepticism about the severity of the next storm. Households characterized by members that embrace fatalistic view of the storm are more vulnerable. An indicator of fatalism is agreement with the statement that, “there is not much you can do to prepare for a storm; either you are lucky or unlucky.” This illustrates responses to this particular question alone.



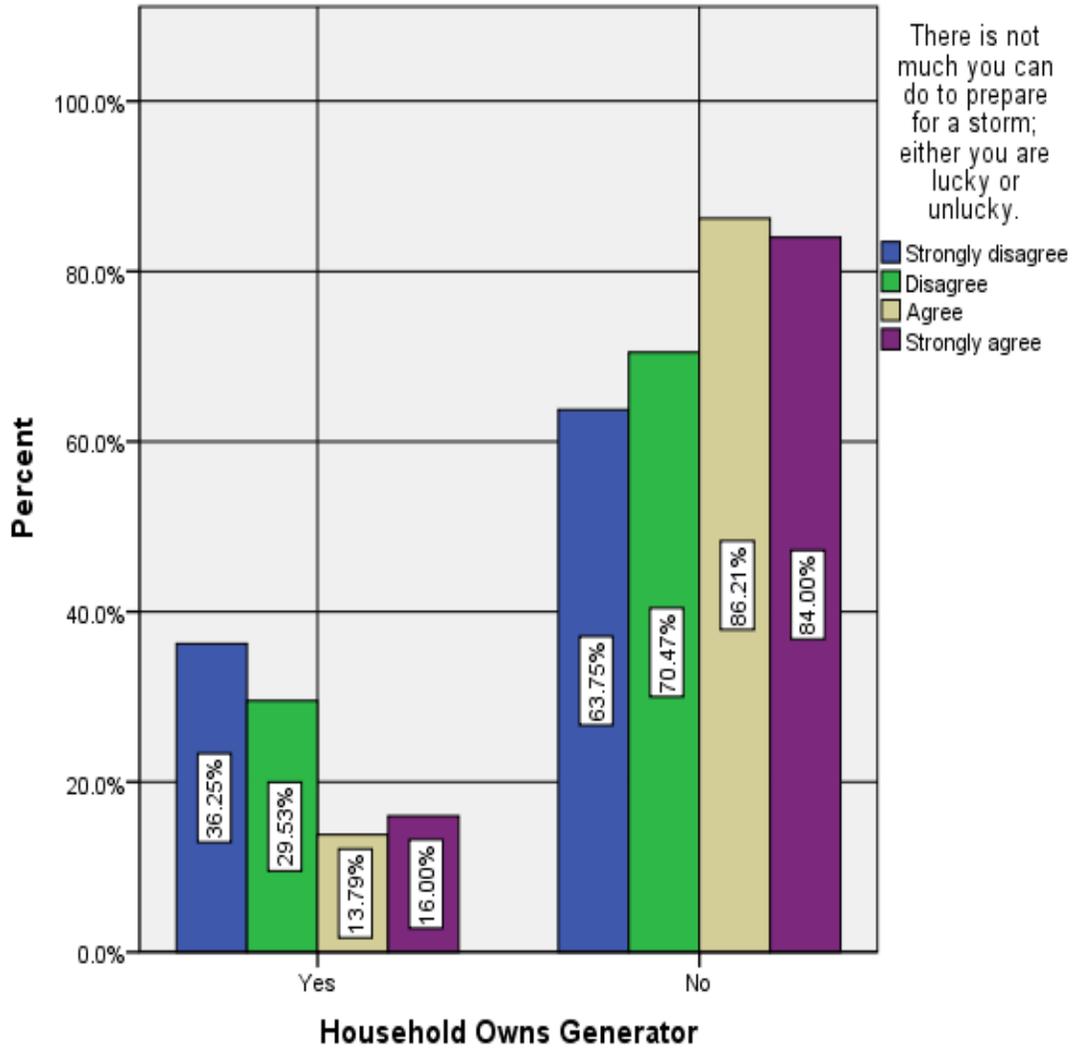
### Fatalism Sub-analysis

Households were asked to report their level of agreement, on a scale of totally agree, agree, disagree, or totally disagree, that “there is not much you can do to prepare for a storm; either you are lucky or unlucky.” It is asserted in the narrative in the above “Fatalism” heat map that an affirmative response to this query is an indicator of fatalism. Further, in the narrative for the above “Preparation” heat map it is stated that there are three indicators of the concept preparation: 1) the household in possession of a first aid kit, 2) the household in possession of a generator, and 3) the household in possession of enough food and water for a week to sustain the household for a week. This sub-analysis is intended to explore the relationship between Fatalism and Preparation. Below are three charts, each with a single indicator of the concept Preparation serving as the primary variable of interest. Each of these primary variables is controlled for by Fatalism.

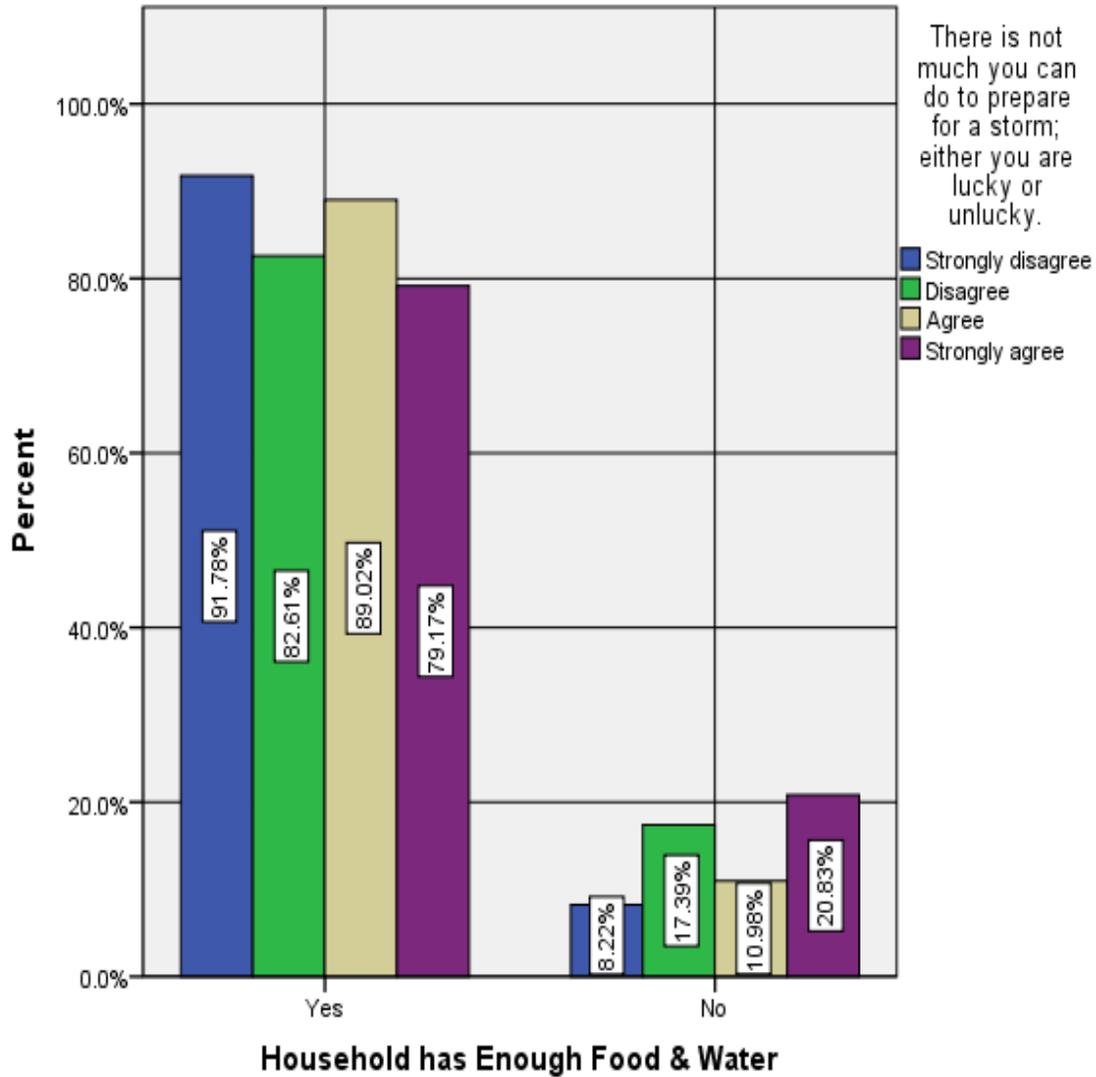
As illustrated by this first indicator of Preparedness, there appears to be a relationship between possession of a first aid kit and fatalism. Those households that are most fatalistic, as measured by strongly agreeing with the statement, “there is not much you can do to prepare for a storm; either you are lucky or unlucky” are also least likely to own a first aid kit.



Likewise, as illustrated by this second indicator of Preparedness, those households that are most and near-most likely to exhibit fatalism by strongly agreeing or agreeing with the statement, “there is not much you can do to prepare for a storm; either you are lucky or unlucky” are also less likely to own a generator.



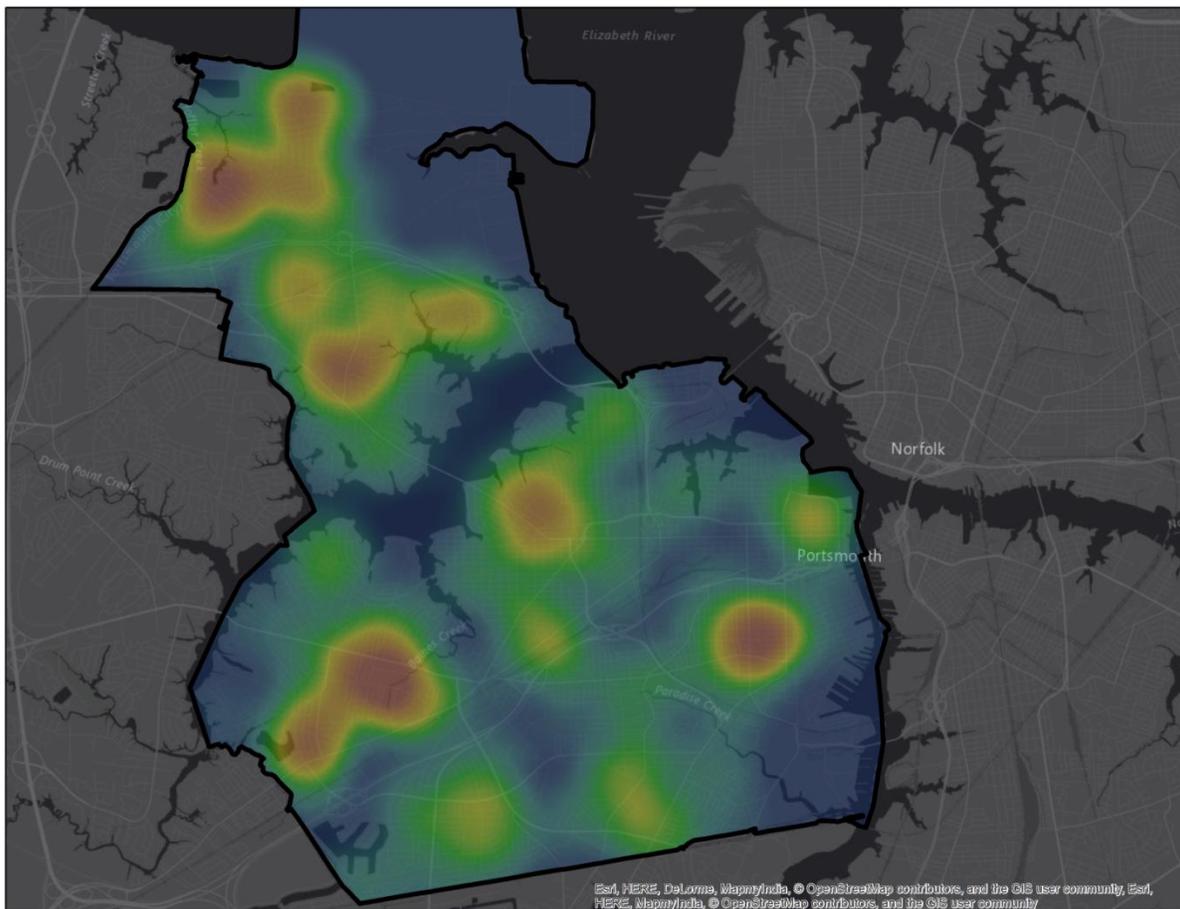
Further, as illustrated in this third indicator of Preparation, those households that are most likely to exhibit fatalism by strongly agreeing with the statement, “there is not much you can do to prepare for a storm; either you are lucky or unlucky” are also least likely to report the household as having enough food and water to sustain the household for a week.



## Social Network

Social and familial networks provide access to resources and opportunities that may be beneficial in managing the disruption of a storm. These resources are embedded within the network and, by association and inclusion in the network, the individual is made aware of these resources and potentially may draw upon them to accommodate needs. The network provides the resources, whether financial, emotional, or informational, to better prepare for, weather, and recover from the event. Individuals tend to consider the behavior of friends, family, and neighbors in evaluating the impending risk. Assessments of impending risk, how to prepare for storms and what resources to draw upon are socialized within these networks. Being embedded in social relationships is also important to avoid trauma and manage stress. Households with weak networks have diminished capacity to engage in mitigation activities, leverage resources, and recover from the storm relative to households with strong social and familial networks. A weighted combination of the following indicators has been used:

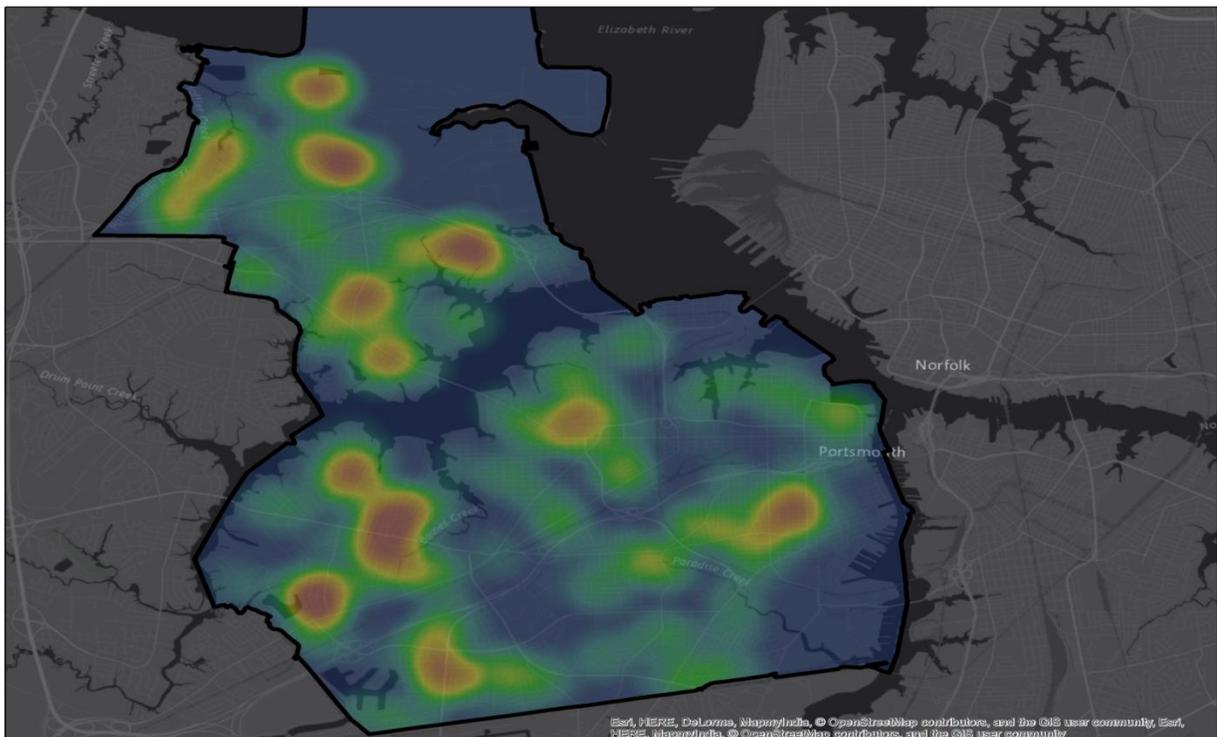
1. Household has a strong network of family members living in the area.
2. Household has a strong network of friends living in the area.
3. Household knows the names of the neighbors.



## Financial

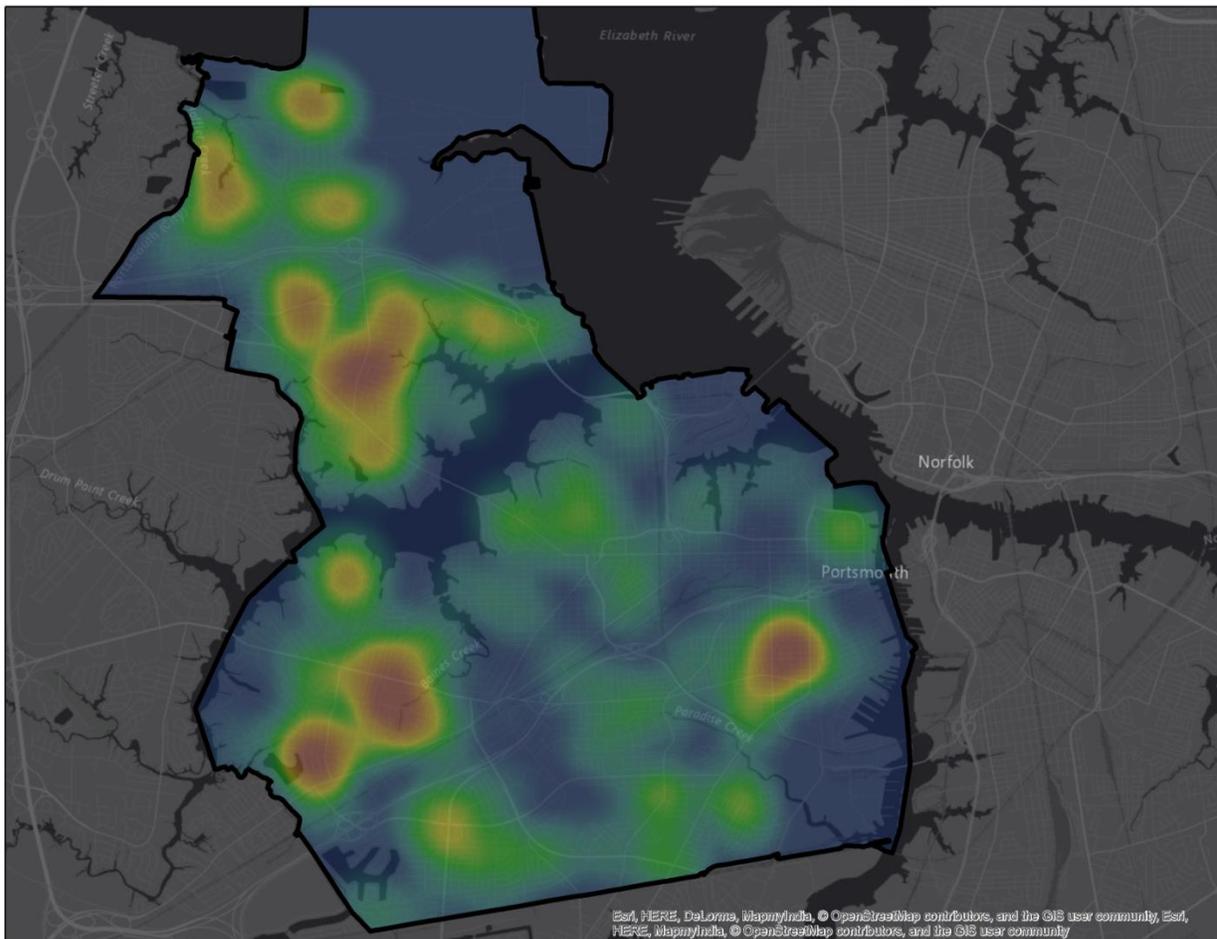
Financial vulnerability is a household's ability to absorb the financial impact that a disrupting severe storm event. The normal patterns of work and commerce may be altered in the days prior to an impending storm and the days or weeks following the event. Workers may be furloughed, without compensation, prior to and after the storm. Storm-related preparation in the form of food, fuel, and logistics may impose demands upon the household's finances. These changes in the form of disruption in work patterns and income as well as disruption in household expenditures have implications. Households with modest financial reserves to draw upon are least able to manage perturbations that have the ability to over tax the resources of the household and place the household into untenable financial straits. These disruptions may jeopardize the ability to pay rent or make the mortgage, which have longer-term consequences for the stability of the family unit long after the storm has passed. Such households are characterized as financially vulnerable to the disrupting effects of a severe storm event. A weighted combination of the following indicators has been used:

1. Anyone in the household lose pay.
2. Anyone in the household lose vacation time or use sick time.
3. If lose a week's pay, would have trouble paying next month's rent or making the mortgage.
4. If lose a month's pay, would have trouble paying next month's rent or making the mortgage.
5. Enough cash or credit to support the household for five days outside the region.



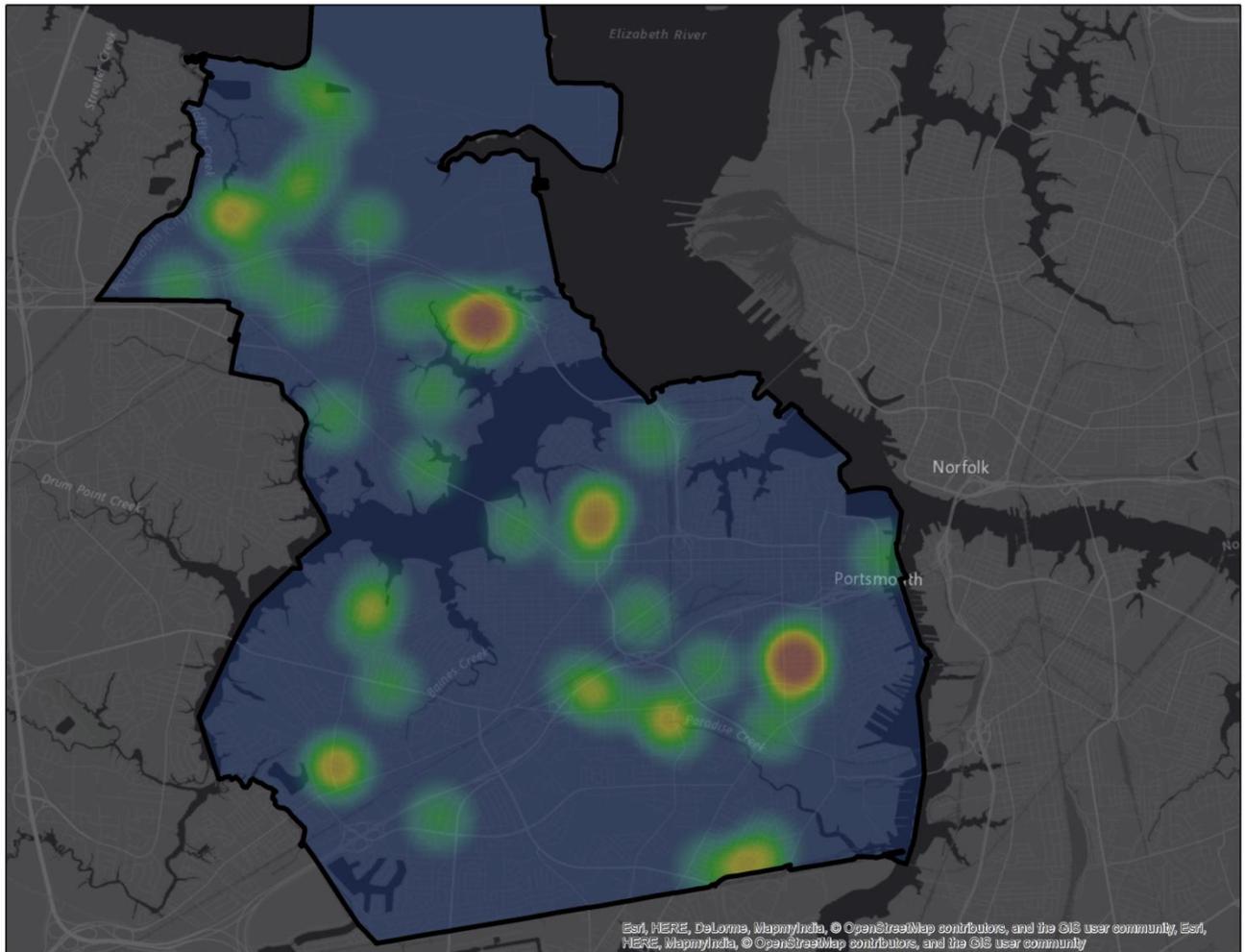
## Theft

The perception that private property will be looted may compel citizens to shelter in place (that is, the vulnerability does not stem from the potential theft per se). In addition, some residents understand that reentry may be limited by protective services and public officials for days. The awareness that they may not be able to return immediately to assess – and protect – their property following the storm event may be considered in the decision not to exit the region in the first place. In addition, following the storm, without electricity many still will not sleep with their windows open for fear of crime. Perception about safety of private and real property in the absence of the owner conditions the propensity to shelter in place and increases the household's vulnerability. An indicator of theft vulnerability is agreement with the strength of the perception that if a major hurricane hit the area and the household was evacuated, it would be very likely that the home would have things stolen from it.



## Single Parent Household

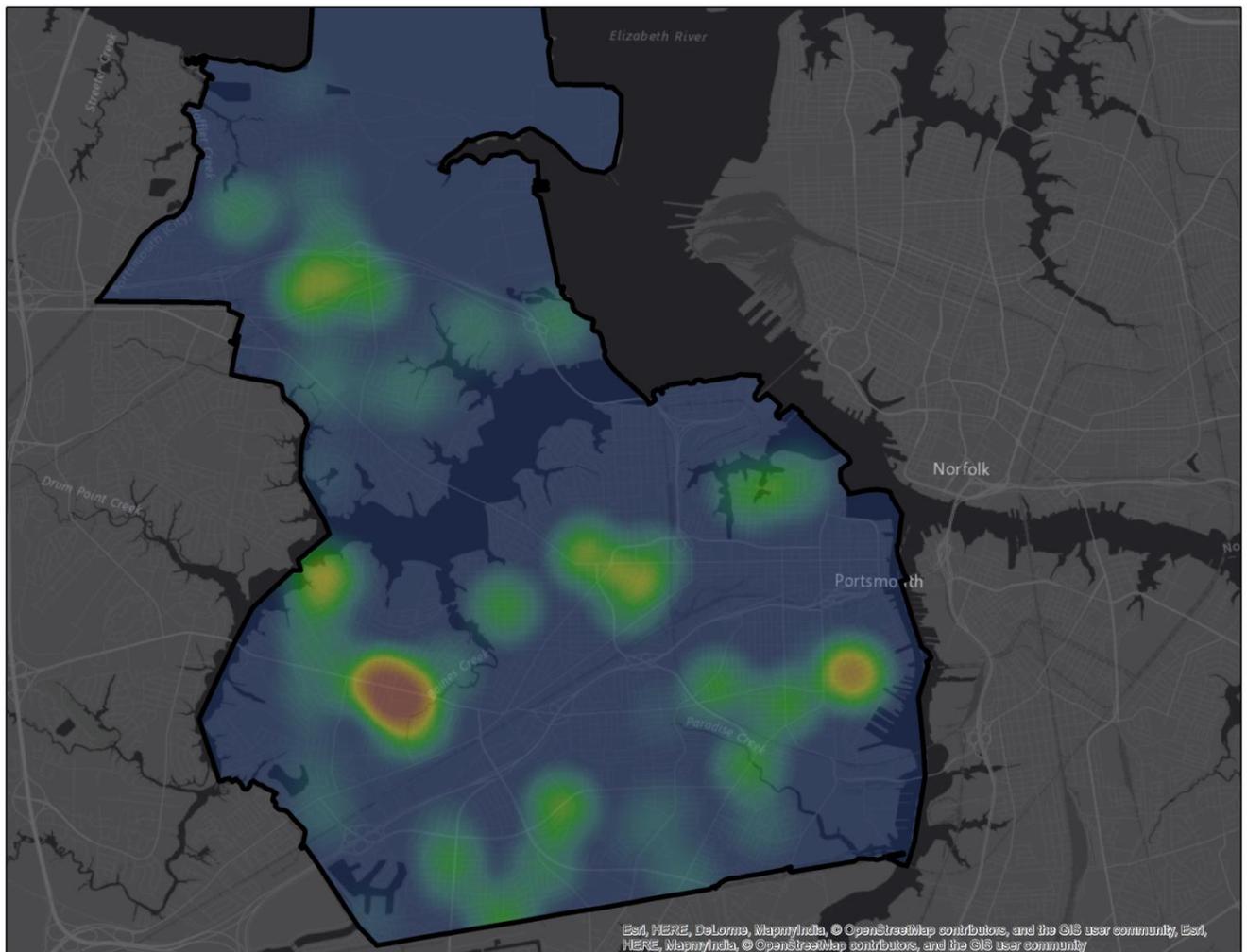
Households with children have members that are at greater risk all else equal simply due to the natural dependence children have on the adults in the households. In addition, a single parent household may lack another adult with whom to assess risk, share knowledge, and pool resources. Respondents were asked if they would characterize their households as a single parent household with children at home. Such a household may be represented by an adult either with or without a biological relationship with the child or a grandparent. An indicator of this type of vulnerability is agreement that the household may be characterized as single parent.



## Sensory

Sensory-related limitations include hearing and sight disabilities. Household members may have difficulty hearing and understanding information necessary to assess the risk of the impending severe storm. In addition, these limitations may condition the ability to weather the immediate storm and navigate rubble and felled organic matter post-event. Household members with such limitations contribute to vulnerability. A weighted combination of the following indicators has been used:

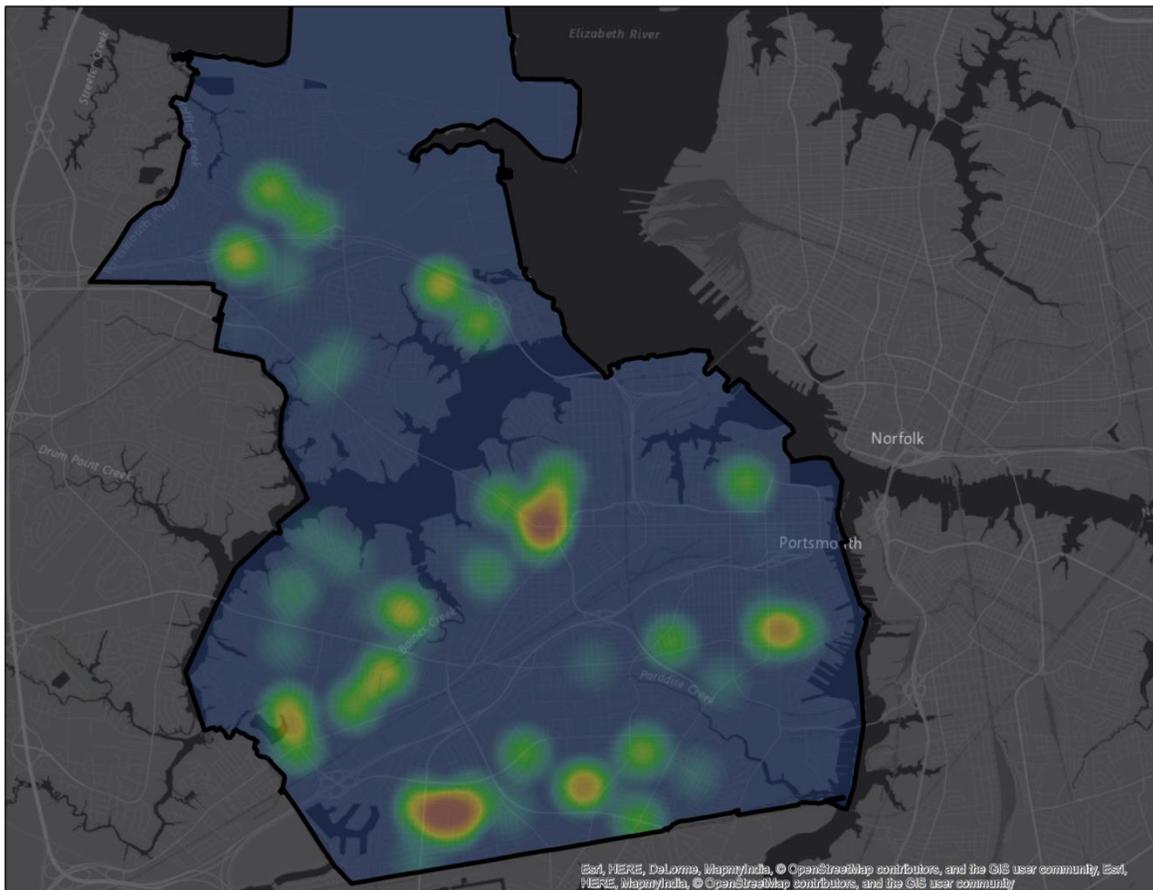
1. Adults in home with hearing disability.
2. Adults in home with sight disability that interferes with ability to engage in normal daily activities.



## Mobility

Households with members that have mobility limitations may be less able to prepare for and respond to an impending severe storm event. Households that have members that are dependent upon equipment to get into a car or van or have members that are largely bedridden are less likely to depart the region and leave the home to gather supplies in anticipation of the storm. Those households with members that have difficulty walking or rely on a walker or wheelchair may be less able to navigate debris fields both inside and outside the home thus resulting in post-event acute injuries. Those households with members characterized as having mobility limitations are vulnerable to the severe storm event. A weighted combination of the following indicators has been used:

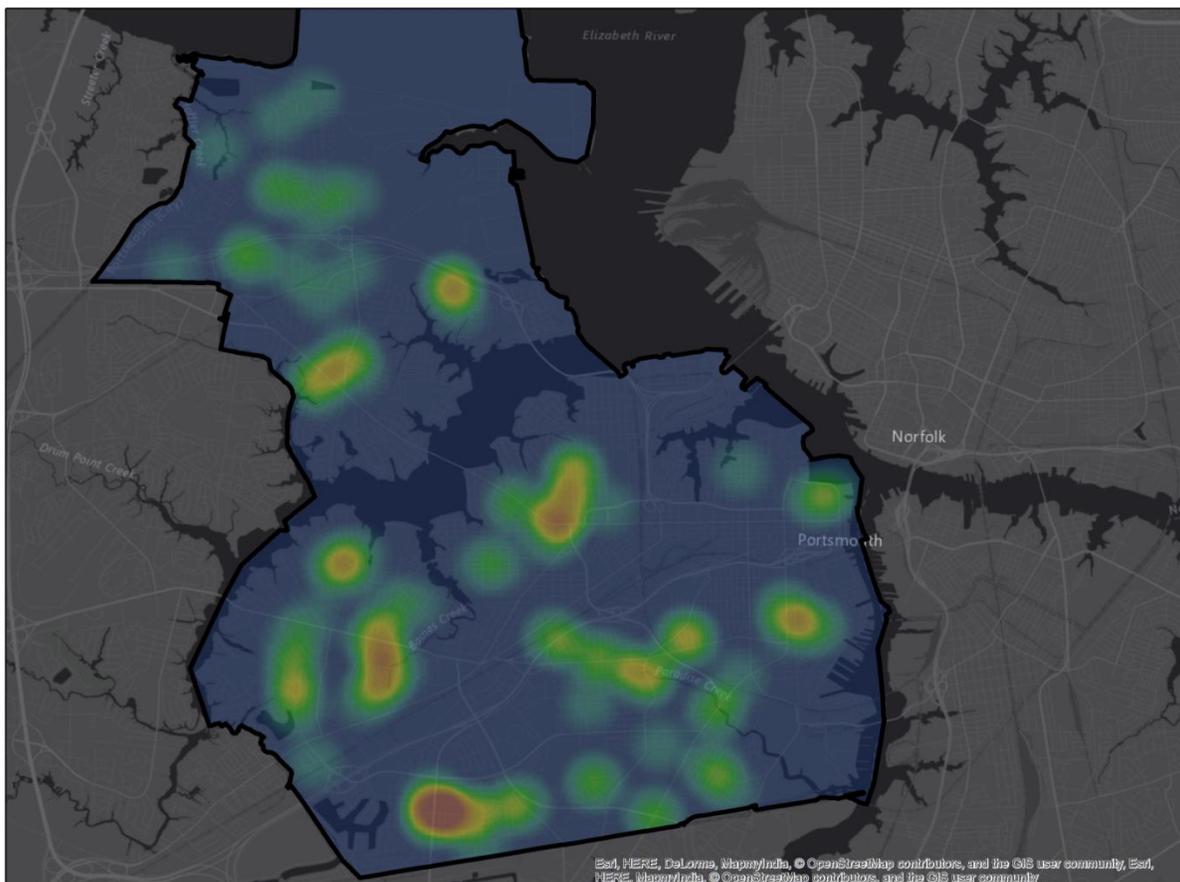
1. Adults in the home that can't walk, have difficulty walking, or use a wheelchair.
2. Adults in home that are largely bedridden, can't or don't get out of bed often.
3. Any household member that requires equipment to get into a car or van.



## Assistance

In the normal routine of living, members may require the assistance in adequately accomplishing activities essential for maintain finances, hygiene, and nutrition. Assistance with activities of daily living may be an indication of frailty or limiting disability. These populations may be both logistically and financially difficult to relocate to move to lower-impact environment. This dependence upon others when coupled with the disruptive temperament of the storm heightens the potential for acute injury, complications in managing medications, and declining wellbeing. Depending on the severity of the storm, modest disruptions to the support network may result in suffering of dependent populations. Those households with members dependent upon others for activities of daily living are vulnerable. A weighted combination of the following indicators has been used:

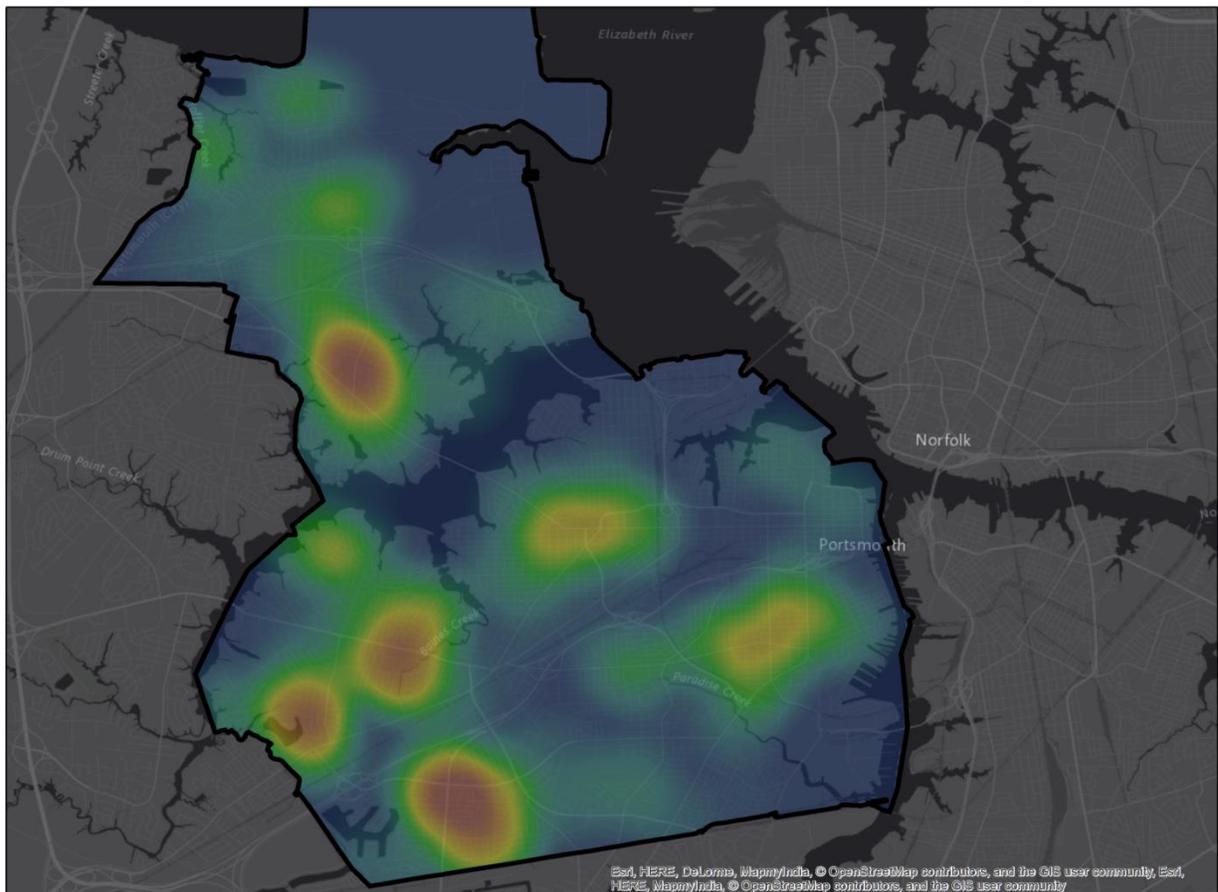
1. Member of the household are dependent upon others to help with normal daily activities such as bathing, getting dressed, feeding, or following medication schedules.
2. Member of the household requiring regular visits by home healthcare company or nurse.
3. Member of the household use medical equipment that would be disrupted if electricity was lost for several days.



## Medical Regimen

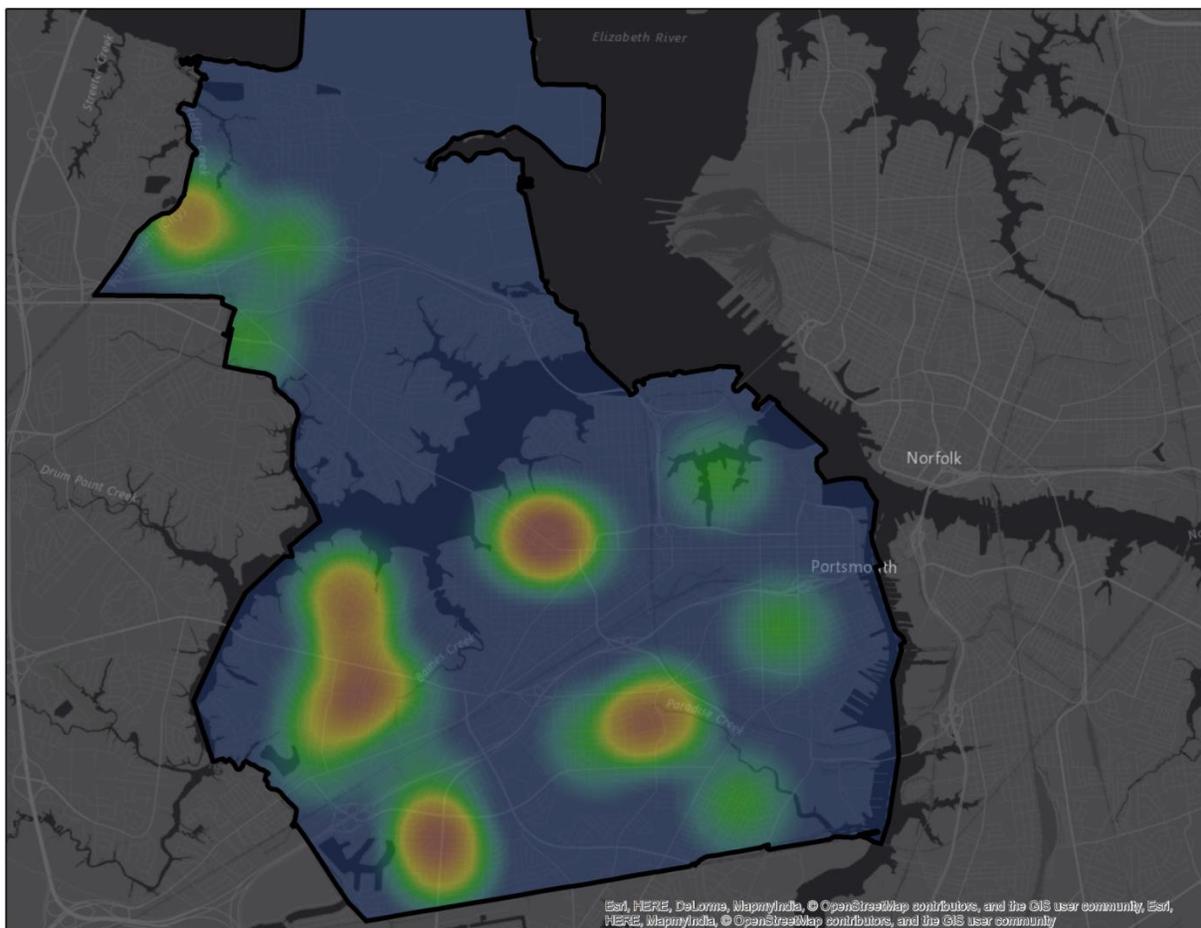
Many conditions require on-going treatment and conscientious management. Disruption in continuity of the medical regimen intended to manage the condition may result in exacerbation of the condition and medical complications. The disruptive nature of the severe storm event may limit access to health professionals and treatments stemming from disorder in transportation networks and delayed appointments. Further, documentation of conditions, prescriptions, and dosages are often more difficult in environments that have suffered catastrophic damage and displacement of populations. Those households with members with chronic conditions requiring medical regimens are vulnerable to the severe storm event. A weighted combination of the following indicators has been used:

1. Members of the household being treated for heart disease, hypertension, or high blood pressure.
2. Members of the household that are diabetic.
3. Members of the household requiring dialysis, chemotherapy, or something similar that requires regular medical treatment.



## Healthcare Access

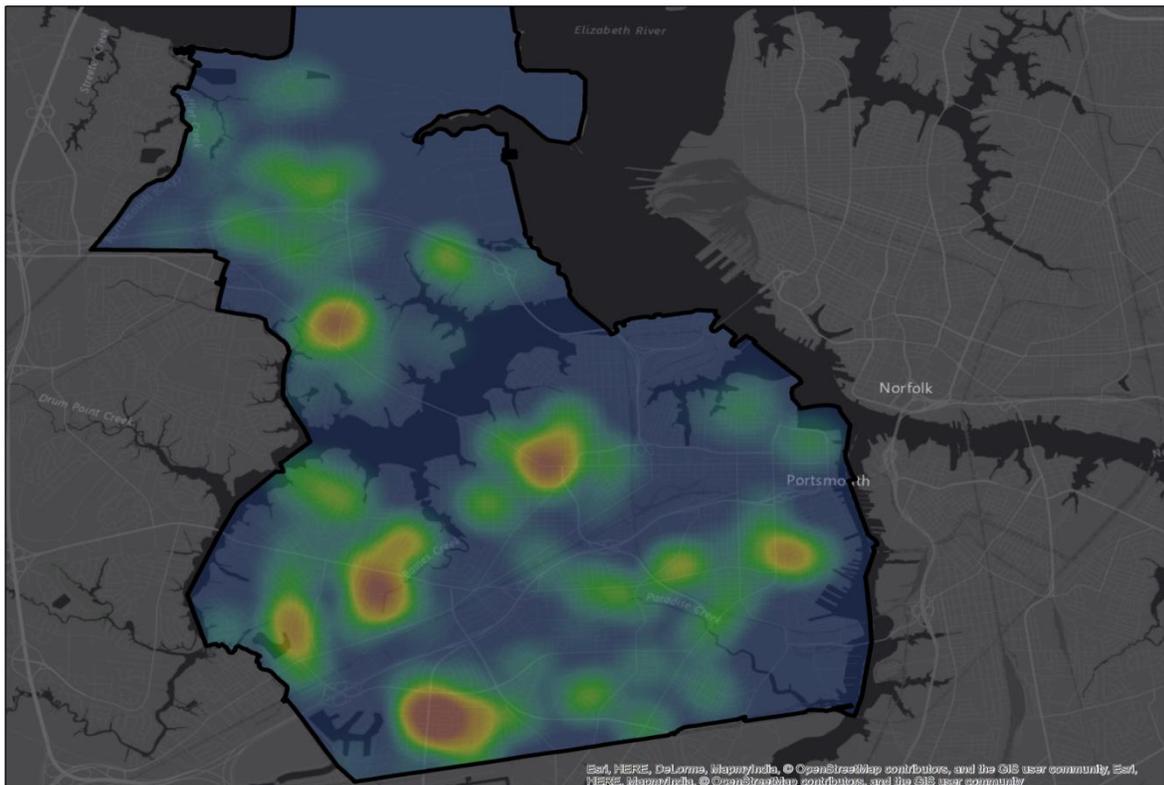
Households with one or more adults without primary care medical coverage are traditionally viewed as vulnerable households. Along with the stressors inherent within an environment that has been impacted by a severe weather event may exacerbate existing medical conditions that require the attention of a medical professional. In addition, the altered built environment may further impact access to healthcare venues that provide services to under- and un-insured populations. An indicator of this type of vulnerability is agreement that the household has at least a single member that does not have either employer sponsored health insurance (including self-insured) or is not enrolled in government-subsidized program such as Medicaid, Medicare, or VA benefits.



## Medical Fragility Vulnerability Composite

Medical fragility is a broad concept that necessarily encompasses many conditions and circumstances. In general, medical fragility is indicated by functional decline that makes it more difficult to respond and adapt to a stressor such as the rapidly changing environment associated with a severe storm event. Access to the support system, medical records, medical regimens, and nutrition that define a dependence on others may be easily upset or disrupted with the occurrence of a severe storm event, thus placing the person at higher risk for adverse health outcomes or a perturbation in health. The individual is a self-regulating entity that responds to stressors. Fragile populations have less flexible normal lines of defense and in a post-storm environment the interventions may not be available to counter-act the noxious effect of the stressor. Medically fragile persons, by definition, do have limited reserve capacity to cope with the disruption which, in turn, may evolve a managed, tertiary condition into an acute condition. Those households characterized by a complex of indicators among the five distinct dimensions of vulnerability are vulnerable. A weighted combination of the following indicators has been used:

1. Mobility Vulnerability
2. Medical Regimen Vulnerability
3. Mental Cognition Vulnerability
4. Sensory Vulnerability
5. Assistance Vulnerability



## Overall Vulnerability Composite

Vulnerability is dynamic in that it changes over time. It has to do with the ability to respond and cope with the altering environment resulting from the event. This understanding of vulnerability is one that is centered on the household's networks, capital resources, health status, tolerance for loss, and perceptions of risk. Vulnerability 'plays out' over the days, months, and years following the actual event as the household struggles to reestablish normalcy or, at least, achieve a new normalcy that has a sense of security and stability. The geography of where one lives or the quality of the structure within which one resides may also add to one's vulnerability. This vulnerability is couched within the relatively narrow sliver of time of the physical forces of the event; in the case of a severe storm event, the wind and flooding takes place around landfall. Thus, there is a dual nature to vulnerability, one that focuses on the household's ability to manage over an extended period of time the disruption to the pre-event normalcy and one that focuses on the more proximate exposure of household due to the physical location and built environment near the time of the event. While there is much understanding of the physical vulnerability stemming from place, the 'overall' composite measure of vulnerability offered here is intended to capture situational and behavioral elements of vulnerability, especially as it relates to medical fragility. This overall composite is a weighted measure of the above vulnerabilities (i.e., preparation, fatalism, social network, financial, theft, single parent household, sensory, mobility, assistance, medical regimen, and healthcare access).

