

September 2018

Views and Experiences of Puerto Ricans One Year After Hurricane Maria

The Washington Post/Kaiser Family Foundation Survey of Puerto Rico Residents

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Executive Summary

Hurricane Maria made landfall in Puerto Rico on September 20, 2017 as a category 4 storm causing significant destruction across the U.S. territory leaving people with damaged homes, limited access to food and water, and in the dark due to massive power failures. Since the hurricane hit, news reports have described the far-reaching consequences of the storm, but data on how widespread some issues are has been lacking. In order to give voice to the people of Puerto Rico and to quantify the current status of the situation nearly one year after the storm's devastation, the Kaiser Family Foundation and *The Washington Post* conducted an in-person representative survey in July and August 2018 of current adult residents of Puerto Rico who endured the storm nearly a year earlier.¹ The survey explores Puerto Ricans' experiences after the storm, their ongoing needs, and their views of rebuilding priorities going forward.

When thinking about the damage Hurricane Maria has done in Puerto Rico, it is important to note that the territory was already facing a variety of challenges before the hurricane struck. For example, the population is largely low income, with a median annual income of about \$20,000, compared to \$57,000 in the rest of the U.S.² Even before Maria, the territory has been in economic crisis and experiencing outward migration as people leave for more opportunity elsewhere.^{3,4} Because of these factors, the hurricane likely further exacerbated issues that were already present on the island and made rebuilding that much more difficult.

This survey is part of the Kaiser Family Foundation's ongoing efforts to survey and hear directly from those affected by major hurricanes throughout the U.S. It builds on a series of surveys that were conducted between 2005 and 2015 after Hurricane Katrina struck the New Orleans area and more recent work in the Texas Gulf Coast area after Hurricane Harvey.^{5,6} In Puerto Rico, the Kaiser Family Foundation also has done focus groups and in-depth interviews across the territory since the hurricane hit as well as covered the recovery progress with its news reporting through Kaiser Health News.^{7,8} And, while the Kaiser Family Foundation/*Washington Post* survey does not include residents of the U.S. Virgin Islands who were hit by Hurricanes Irma and Maria last year due to the feasibility of interviewing in-person across multiple islands in multiple languages, the Kaiser Family Foundation has done in-depth interviews with residents and government officials to gather information about their ongoing experiences in the U.S.V.I.⁹

Some of the key findings from this survey of Puerto Rico residents are below:

Key findings:

- **Impacts of the storm were ubiquitous.** Over eight in ten (83 percent) say they were affected by the hurricane in at least one of the following ways: they were without grid power for four or more months, they had employment losses, their home was destroyed or majorly damaged, their vehicle was damaged, they drank water from a natural source, they or a family member have a new or worsened health condition, or have received mental health services as a result of the storm. In addition, half say they had trouble getting enough water to drink (50 percent) and 70 percent say the lack of electricity caused them to have trouble storing and preparing fresh foods.

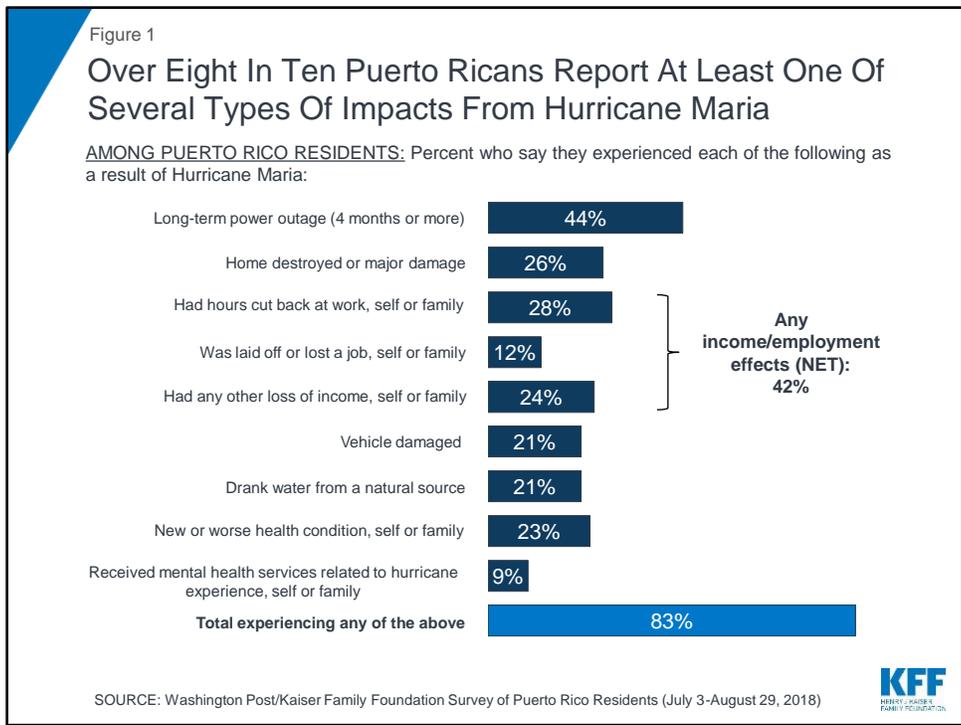
- For some, the day-to-day life disruption continues.** A quarter of Puerto Rican residents say their day-to-day life is still somewhat (18 percent) or very (7 percent) disrupted. While majorities say many aspects of their lives are about the same, or even better, than before the hurricane, some say specific aspects of their life are worse now than before Hurricane Maria, including their general level of stress (26 percent) or their personal financial situation (25 percent). In addition, some are still struggling with housing including 13 percent who say conditions in the place they are living are not safe and 6 percent who say their home that was damaged during the storm is still unlivable. Now, a year out from the storm, three in ten (31 percent) say they personally still need help repairing damage to their home and two in ten (21 percent) say they need help navigating systems for aid. Those with lower incomes (less than \$20,000 annually) are more likely than others to report challenges related to housing. For example, 30 percent of those with lower incomes say their home was majorly damaged or destroyed, 17 percent say that conditions in their home are not safe, and 37 percent say they need more help repairing their damaged homes.
- The storm brought physical and mental health challenges for some Puerto Ricans.** About a quarter say they or a household member has a new or worsened health condition since the storm and 22 percent say they or a household member has received mental health services related to their experiences with Maria or that they or a household member needed mental health services since the storm but didn't receive them. In addition, about a third (32 percent) say that as a result of Hurricane Maria they have faced at least one of several types of challenges accessing medical care, including problems getting needed medical care (16 percent), or trouble getting appointments with specialists (20 percent).
- Households with someone who has a debilitating chronic condition or disability more often report negative health impacts of Maria.** For example, they are more likely than others to say they or a household member has a new or worsened health condition (41 percent vs. 14 percent), to report problems getting needed care (26 percent vs. 11 percent), or to report getting mental health care due to Maria (17 percent vs. 5 percent).
- Large majorities say more resources are necessary for rebuilding in Puerto Rico.** In terms of community needs for rebuilding, large majorities say more resources are necessary in improving basic infrastructure like roads and highways (93 percent) and restoring the power grid (76 percent). Many also say more resources are needed in employment assistance (86 percent), repairing homes (78 percent), and in helping small businesses (79 percent).
- Many express apprehension of Puerto Rico's standing in the U.S. and how that may have affected the response and the recovery.** More than half (55 percent) say that rebuilding Puerto Rico is not a priority for the federal government and six in ten (61 percent) say that the federal government's response to Maria would have been better if it were a state. In addition, over half (54 percent) say the federal government's response to Hurricane Maria was worse than its response to Hurricanes Harvey and Irma that struck Texas and Florida around the same time. Across the board, majorities rate the storm response of the local, territory, and federal government as fair or poor, while smaller shares rate the response as good, very good, or excellent.

- **Looking forward, half of Puerto Ricans are optimistic, but worries are widespread.** Puerto Ricans lean towards being optimistic about the future of the territory. Many know people who have left the island and some are considering leaving themselves. Worries about future hurricanes, electricity outages, and accessing needed health care services are pervasive and majorities say both the federal government and Puerto Ricans are not prepared to deal with future hurricanes in Puerto Rico.
- The report also includes comparisons to the views and experiences of those in the New Orleans area after Hurricane Katrina and those in the Texas Gulf Coast area after Hurricane Harvey, as well as the U.S. public's perceptions of how Puerto Ricans are faring and the federal government's response to Hurricane Maria.

Section 1: Quantifying Hurricane Maria's Wide Ranging Impacts

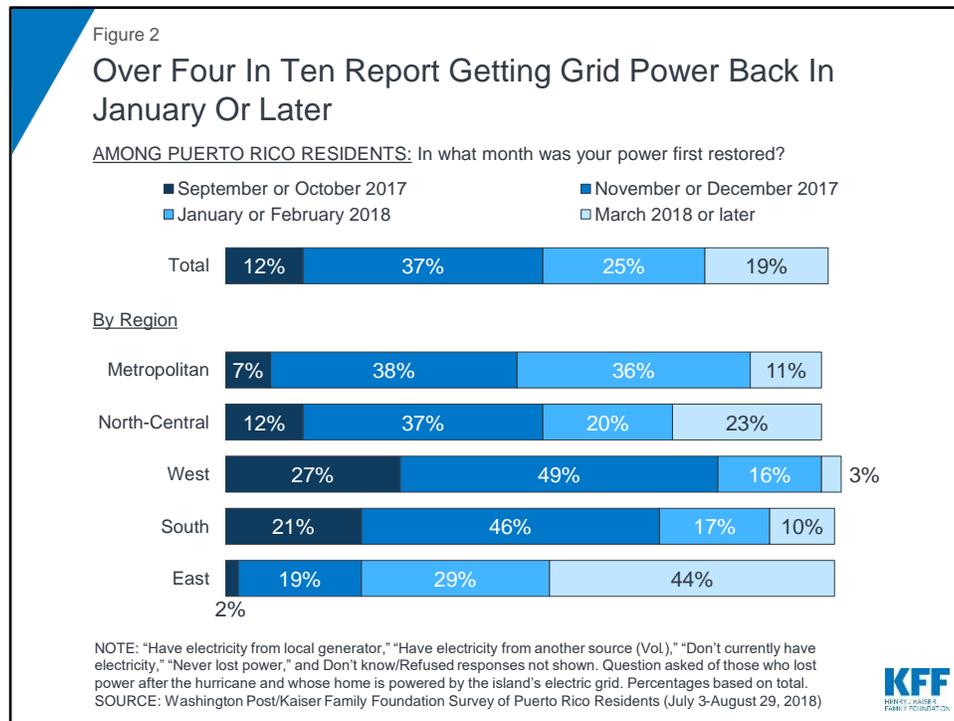
Hurricane Maria's impacts ranged widely, from interrupting basic services such as electricity and water to damaging homes, and limiting individuals' employment opportunities. While organizations such as the power company and local and federal governments have released data on the number of people without electricity or applying for assistance to repair their homes, this is the first comprehensive, island-wide representative survey to assess a broad array of the storm's impacts and hear directly from the people of Puerto Rico about what they experienced and what the ongoing needs are.

Hurricane Maria's impacts were pervasive. Over eight in ten (83 percent) say they were affected by the hurricane in at least one of the following ways: they were without grid power for four or more months (44 percent), they had employment losses (42 percent), their home was destroyed or majorly damaged (26 percent), their vehicle was damaged (21 percent), they drank water from a natural source (21 percent), they or a family member have a new or worsened health condition (23 percent), or have received mental health services as a result of the storm (9 percent). Those closest to the path of the hurricane are somewhat more likely to say they were impacted (89 percent) than those further from the eye of the storm, however, still 74 percent of those more than 20 miles from the storm's path say they were impacted in at least one of these ways, indicating the storm's widespread effects across the entire island. Each of these impact areas is explored more in the following sections.

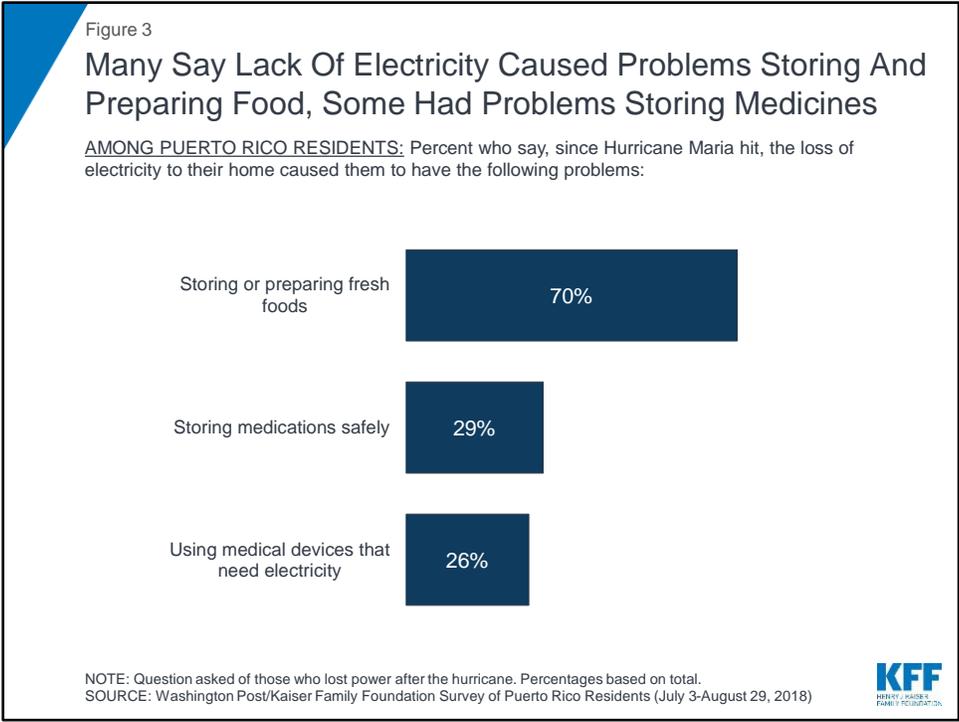


Many Plagued by Long-Term Power Outages

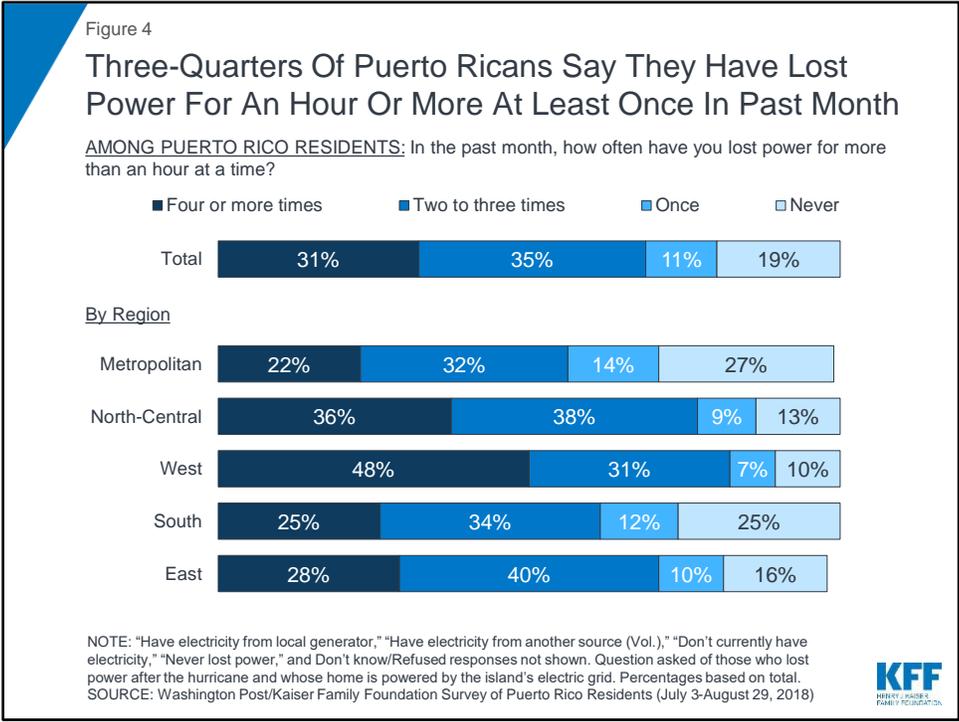
Power outages were universal after the storm and while electricity has just recently been fully restored, many were without grid power for several months and some were without power for six months or longer.¹⁰ Just 12 percent say their power was restored in October, the month after the storm, while 37 percent say it was restored in November or December, and 25 percent say it was restored in January or February. For others (19 percent), it was restored in March or later, roughly six or more months after the hurricane. Residents in areas closest to the center of the storm are more likely to say they had longer periods without grid power than others. For example, three in ten adults in Puerto Rico who live in municipalities that were within ten miles of the center of the storm say they had their power restored in March or later (30 percent), at least twice the share of people who were further from the storm’s center. In the eastern region, where the storm made landfall, 44 percent say their power was restored in March or later.



With this long-term loss of electricity came consequences. Seven in ten adults in Puerto Rico who were there during Hurricane Maria say the loss of electricity caused them to have problems storing or preparing fresh foods. Nearly three in ten report more potentially consequential challenges such as problems storing medications safely (29 percent) and problems using medical devices that needed electricity (26 percent).

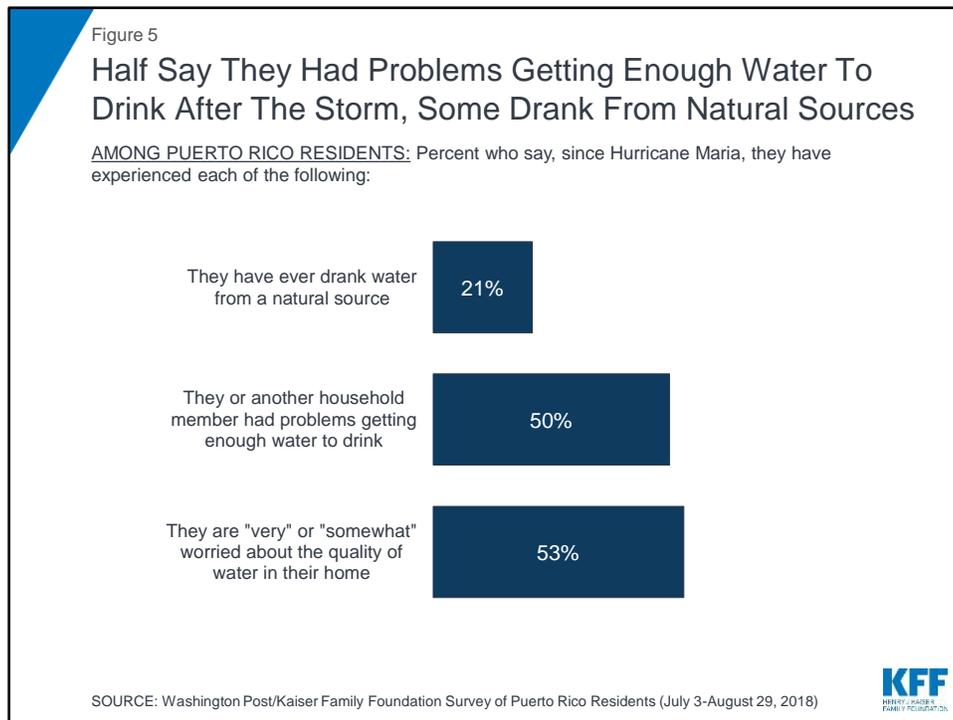


Although power has been recently restored island-wide, a large share (77 percent) report recent outages lasting at least an hour. Three in ten (31 percent) report that in the past month they have lost power for more than an hour at least four times and another 35 percent say they have lost power for more than an hour two or three times.



Lack Of Water Led Some To Drink From Rivers and Streams

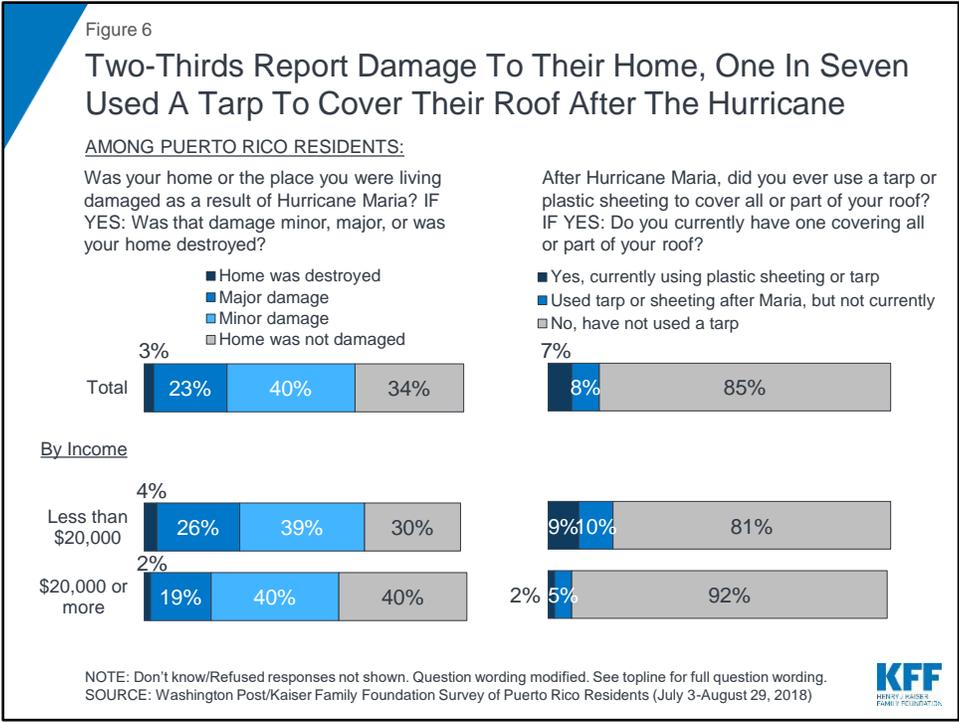
Another area where people faced significant challenges after the hurricane was in accessing fresh water. Half of people living in Puerto Rico during Hurricane Maria said they or someone in their household had problems getting enough water to drink after the hurricane and 21 percent say they drank water from a natural source, such as a stream or river. Many report being very or somewhat worried about the quality of water in their home since the hurricane (53 percent).



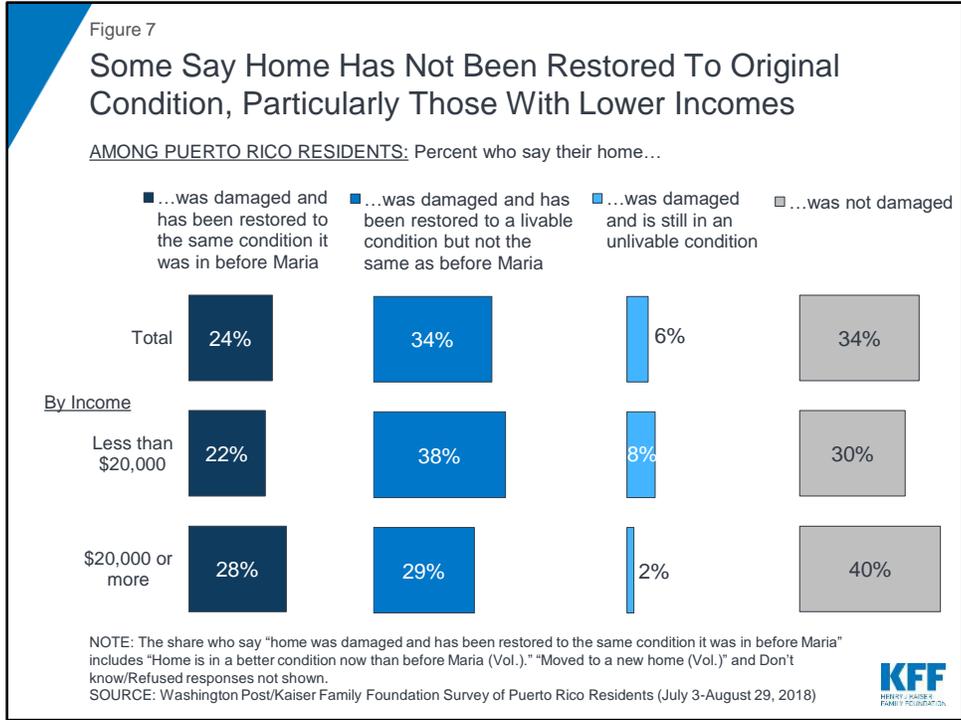
Home Damage Was Widespread

Overall, two-thirds (66 percent) report their home was damaged as a result of the hurricane. About a quarter say that their home suffered major damage (23 percent) or was destroyed (3 percent), while 40 percent describe the damage to their home as minor. Most of those with home damage (74 percent) say they did not have homeowners' or renters' insurance at the time the hurricane hit, while 22 percent say they did. Reports of majorly damaged or destroyed homes are more common among those with incomes of less than \$20,000 a year than those with higher incomes (30 percent vs. 21 percent).

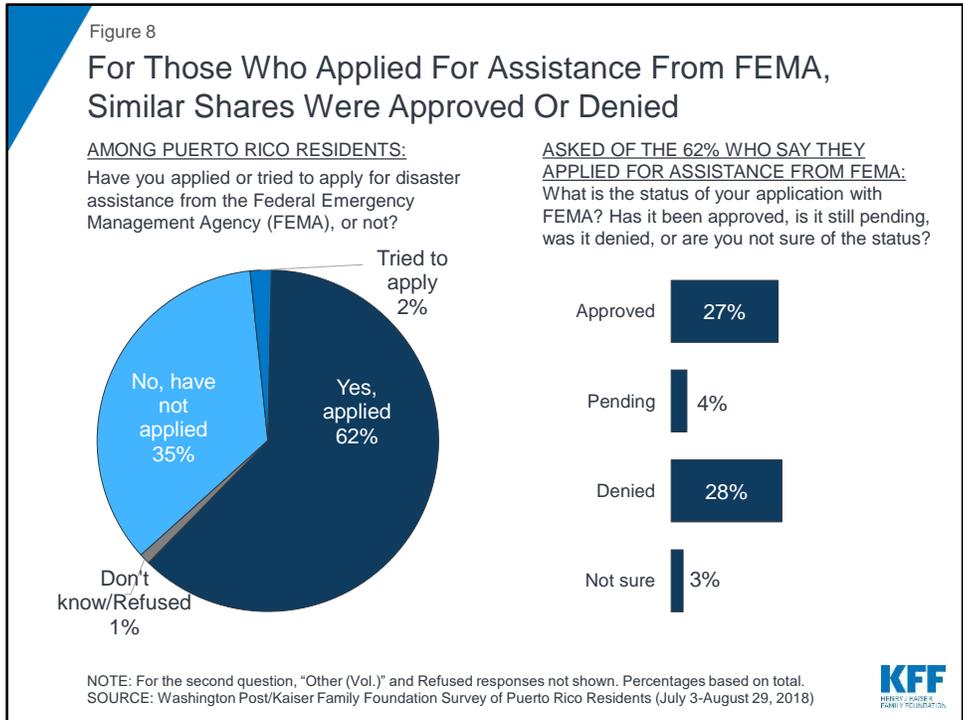
A frequently reported image of home damage in Puerto Rico after the hurricane has been blue tarps covering roofs. Fifteen percent say they have used plastic sheeting or a tarp to cover their roof at some point since the hurricane, including more than a third (38 percent) of those who report their home was destroyed or majorly damaged. Nearly half of those who used a tarp or plastic sheeting to cover their roof say they are still using one (7 percent overall). The use of tarps was more common among those with incomes of less than \$20,000, with about one-fifth saying they used a plastic tarp compared to about one in ten of those with higher incomes (19 percent vs. 8 percent).



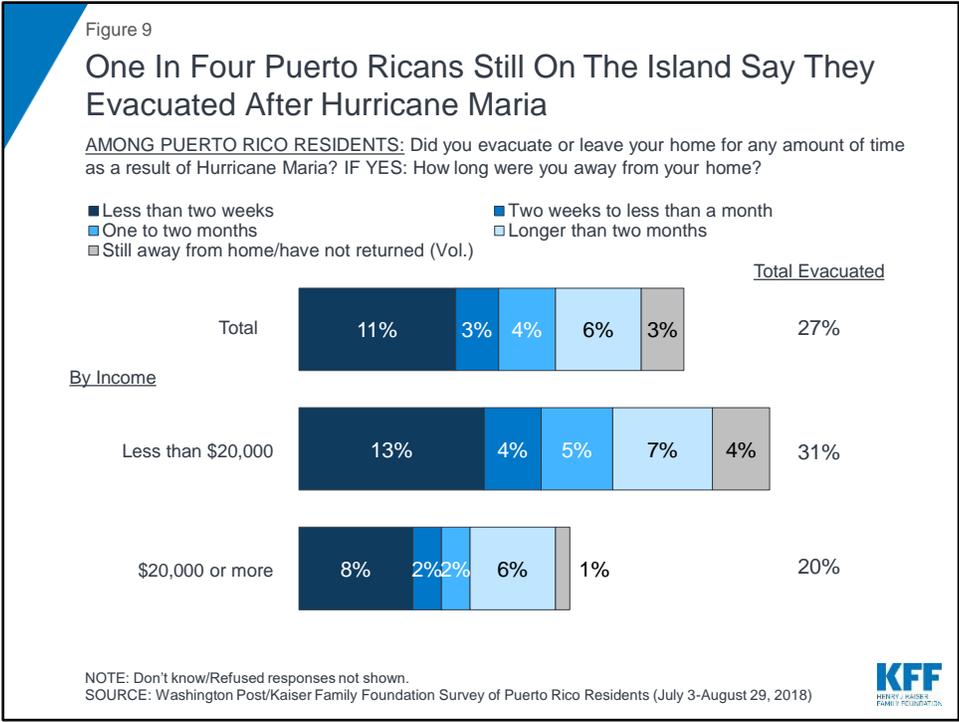
While about a quarter (24 percent) of adults say that their damaged home has been restored to its original status, about four in ten say their damaged home is now in a livable condition but it's not the same as before Maria (34 percent) or that it's still unlivable (6 percent). People that were closest to the center of the storm (in a municipality within 10 miles) are more likely than those furthest away (in a municipality more than 20 miles from the storm's center) to say their homes are livable but not in the same condition or that their home is still unlivable (45 percent vs. 32 percent). In addition, those with an annual household income of less than \$20,000 are more likely than those with higher incomes to say their homes are livable but not the same as before Maria (38 percent vs. 29 percent) or that their home is still unlivable (8 percent vs. 2 percent). Some also say the current conditions in their home are not safe (13 percent), including 17 percent of those with incomes of less than \$20,000.



The Federal Emergency Management Agency (FEMA) and Small Business Administration provide disaster assistance for some people after hurricanes. In Puerto Rico, 63 percent say they applied for assistance through either source, largely through FEMA (62 percent). For those applying for assistance through FEMA, more than a quarter of adults living in Puerto Rico say they applied and were denied (28 percent), while about as many say their application was approved (27 percent). A few others say they applied and that their application is still pending (4 percent) or they are not sure of its status (3 percent). Among those who were approved, most were satisfied with the assistance they received (71 percent) but others were not (28 percent).



About a quarter of Puerto Rico residents still living on the island say they evacuated their home after the storm (27 percent) and most of them (88 percent of evacuees) went somewhere else in the territory. Because the survey was conducted face-to-face with current residents on the island, this estimate of the share who evacuated, by definition, does not include any residents who may have evacuated and not returned to Puerto Rico.¹¹ Nearly half of the evacuees (13 percent of Puerto Ricans overall) say they were away from their home for at least a month, including 10 percent of evacuees (3 percent of Puerto Ricans overall) who say they haven't returned home yet.



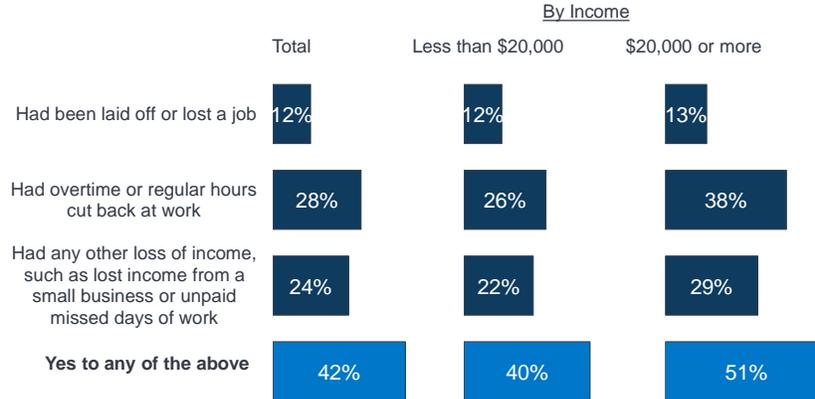
Financial Challenges Since the Hurricane

As noted above, about four in ten (42 percent) report employment losses, such as being laid off or losing a job (12 percent), having overtime or regular hours cut back at work (28 percent), or any other loss of income such as lost income from a small business or unpaid missed days of work (24 percent). Those making at least \$20,000 a year are somewhat more likely to report having hours cut than those who are lower income (38 percent vs. 26 percent).

Figure 10

Income And Job Impacts Somewhat More Common Among Those With Higher Incomes

AMONG PUERTO RICO RESIDENTS: Percent who say they or another family member in their household experienced each of the following as a result of Hurricane Maria:



SOURCE: Washington Post/Kaiser Family Foundation Survey of Puerto Rico Residents (July 3-August 29, 2018)

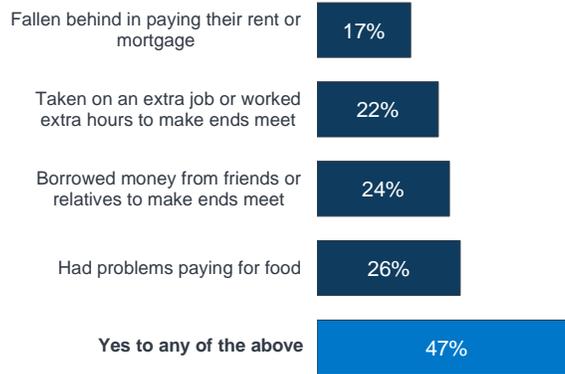


In addition to challenges with employment, nearly half (47 percent) report at least one of several types of financial challenges since Hurricane Maria, including having problems paying for food (26 percent), having to borrow money from friends or relatives in order to make ends meet (24 percent), having to take on an extra job or working extra hours to make ends meet (22 percent), or falling behind in paying their rent or mortgage (17 percent).

Figure 11

About Half Report Some Sort Of Financial Difficulty After Hurricane Maria

AMONG PUERTO RICO RESIDENTS: Percent who say, at any time since Hurricane Maria hit, they or any other adult in their household has experienced each of the following:



SOURCE: Washington Post/Kaiser Family Foundation Survey of Puerto Rico Residents (July 3-August 29, 2018)



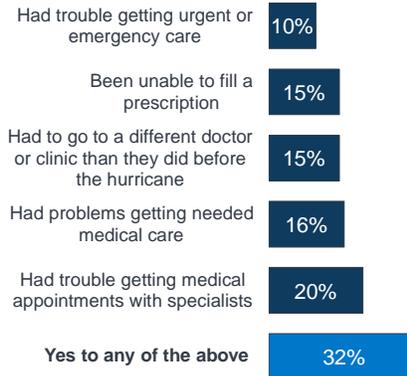
Physical and Mental Health Impacts

In addition to some saying their mental or physical health is worse after the storm, about a third (32 percent) report at least one of several issues related to getting medical care for themselves or a family member since the hurricane. One-fifth report that, as a result of the storm, they or a household member had trouble seeing a specialist (20 percent); others report problems getting needed care (16 percent), getting a prescription filled (15 percent), or that they had to go to a different doctor than they had before the storm (15 percent). One in ten (10 percent) say they had trouble getting emergency care for themselves or a family member.

Figure 12

A Third Of Adults In Puerto Rico Report Problems Accessing Medical Care After Maria

AMONG PUERTO RICO RESIDENTS: Percent who say that as a result of Hurricane Maria, they or another adult in their household have experienced each of the following since the hurricane:



SOURCE: Washington Post/Kaiser Family Foundation Survey of Puerto Rico Residents (July 3-August 29, 2018)

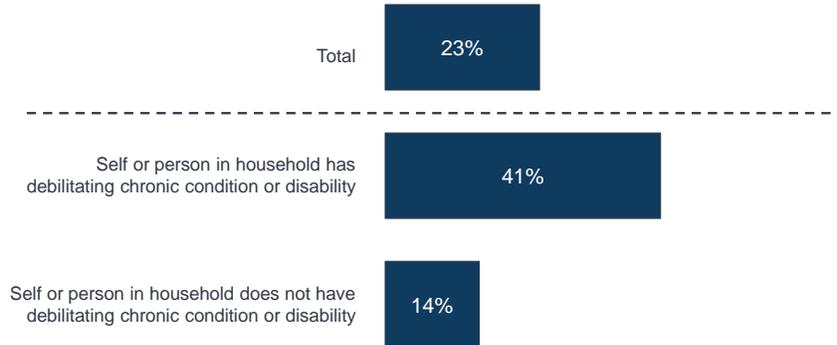


When asked more directly about how the storm affected health, nearly a quarter (23 percent) say that they or a household member has a new or worsened health condition as a result of the storm. Of those with a debilitating chronic condition or disability or a household member with one, 41 percent say a health condition is new or worse for themselves or a family member after the storm. The reported health impacts for this group are more pronounced and described in detail on page 17.

Figure 13

Nearly A Quarter Report New Or Worsened Health Conditions For Them Or A Family Member Due To Maria

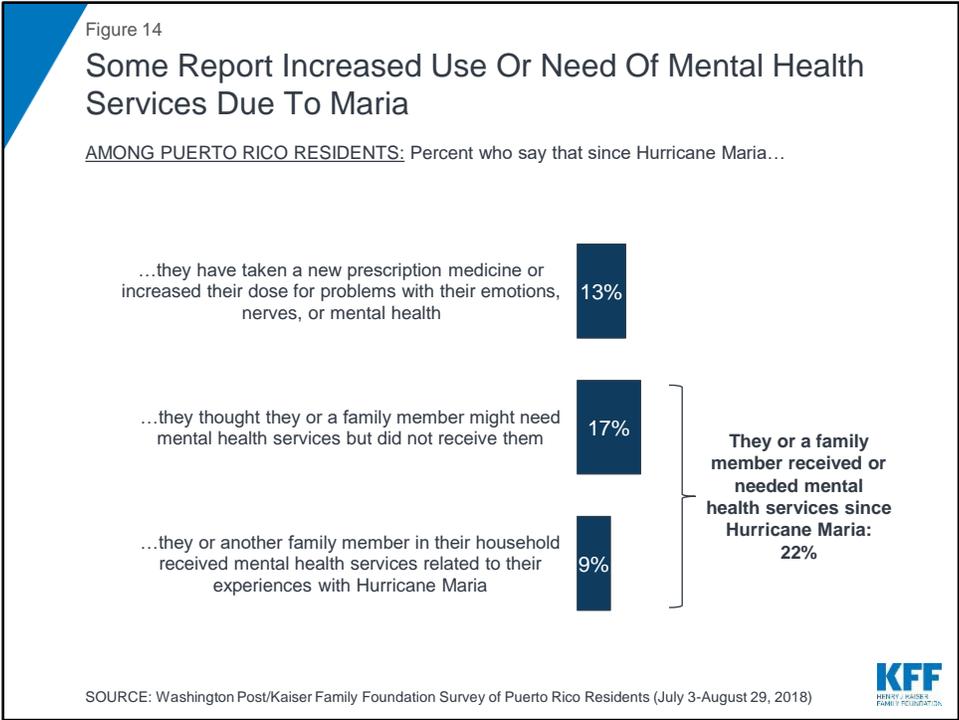
AMONG PUERTO RICO RESIDENTS: Percent who say they or another family member living in their household have any health conditions that are new or have gotten worse as a result of Hurricane Maria:



SOURCE: Washington Post/Kaiser Family Foundation Survey of Puerto Rico Residents (July 3-August 29, 2018)



In terms of specific mental health impacts, 13 percent say they have taken a new prescription medicine or increased their dose since the storm for problems with their emotions, nerves, or mental health. About two in ten (22 percent) say they or a household member received mental health care related to their experiences with the storm (9 percent) or think they or a household member needed mental health services since the storm but didn't receive them (17 percent).



The storm’s death toll has been a subject of controversy with varying estimates and reports.¹² In order to get a general sense of how many people in Puerto Rico attribute a loved one’s death to the storm, the survey asked if anyone close to them died as a result of the storm. In response, about one in five (19 percent) say that someone close to them, such as a family member or close friend, died as a result of Hurricane Maria, either because they were injured during the storm or because they had trouble getting clean water, food, or medical care in the months after the storm. This broad measure of Puerto Ricans’ perception of the death toll is not meant to be an epidemiological estimate. It may include people whose loved one would have died soon after the storm regardless, or may double count individuals that multiple people knew given that the in-person interviews happened in localized areas, but it does suggest that some people across the island associate the hurricane with the death of a loved one.

Spotlight On Households With An Individual With A Debilitating Chronic Condition Or Disability

Adults who either have a debilitating health condition or live in a household with someone who does are much more likely to report negative health impacts of Hurricane Maria. For example, they're more likely than others to say they or a household member has a new or worsened health condition, to report problems getting needed care, or to report getting mental health care due to Maria. In addition, roughly four in ten say that the loss of electricity to their home caused them to have problems storing medications safely (41 percent) or say it caused problems using medical devices that needed electricity (39 percent).

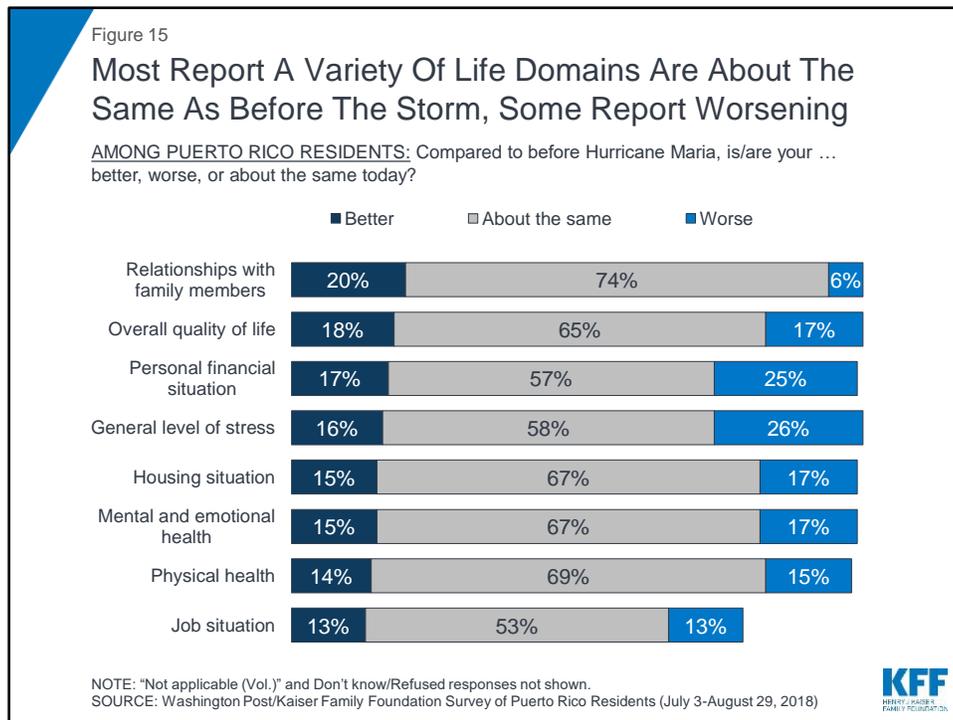
Looking forward, this group is also more likely than others to say their lives are still at least somewhat disrupted (37 percent vs. 20 percent) and to say they need more help in getting the medical or mental health care they or their family need.

Table 1: Households With An Individual With A Debilitating Chronic Condition or Disability More Often Report Health Challenges Related To Hurricane Maria

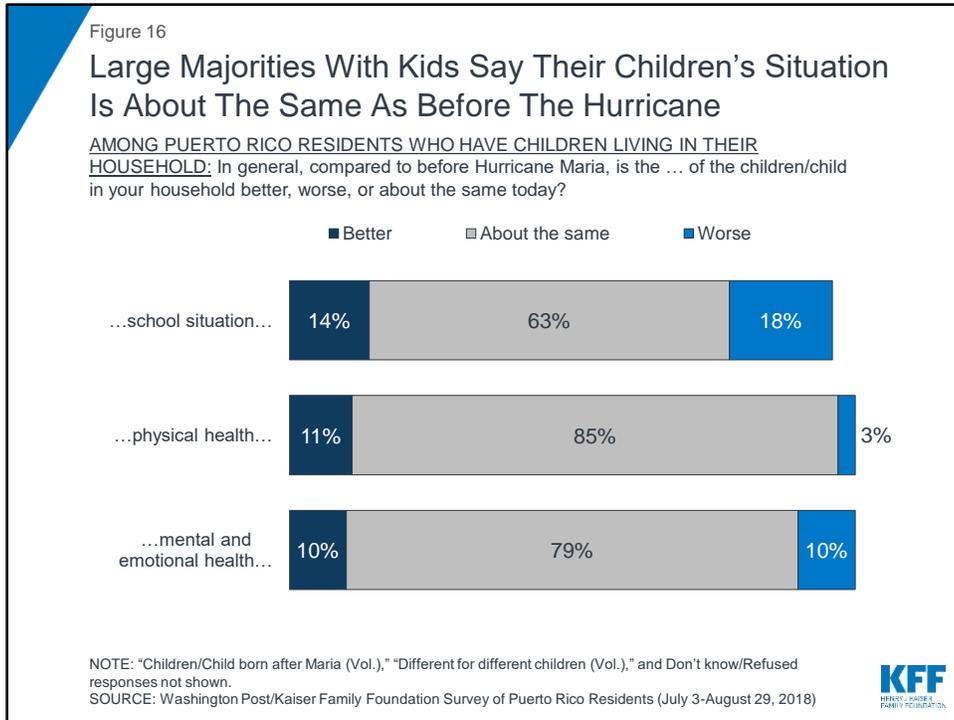
Percent who say...	Self or Household Member Has Debilitating Chronic Condition or Disability	No Debilitating Chronic Condition or Disability in Household
They or a household member has a health condition that is new or worse as a result of Maria	41%	14%
They or a household member have...		
Had problems getting needed medical care	26%	11%
Been unable to fill a prescription	25%	10%
Had trouble getting urgent care	18%	6%
Had to go to a different doctor or clinic than they did before the hurricane	25%	10%
Had trouble getting medical appointments with a specialist	34%	14%
They have started taking a new prescription medicine or increased the dose for problems with their emotions, nerves, or mental health	25%	7%
They or a household member has received mental health services for issues related to Maria	17%	5%
That a family member or close friend died as a result of the storm	25%	16%
The loss of electricity to their home caused them to have problems storing or preparing fresh foods	76%	67%
The loss of electricity to their home caused them to have problems storing medications safely	41%	23%
The loss of electricity to their home caused them to have problems using medical devices that needed electricity	39%	21%
Their physical health is worse	24%	11%
Their mental and emotional health is worse	26%	12%
Their life is still somewhat or very disrupted	37%	20%
Need more help getting the medical care they and their family need	24%	10%
Need more help getting mental health care for them and their family	19%	5%

Residents' Assessment of the Storm's Personal Impact

Despite these various impacts, most adults in Puerto Rico say many aspects of their life are about the same as they were compared to before the hurricane hit. In many areas similar shares say better as say worse, such as their housing situation, job situation, physical and mental health, and overall quality of life. However, in other areas such as their personal financial situation and general level of stress, more say things are worse now than better.



And, for those with children, majorities say the mental and physical health of their kids and their school situation is about the same as it was before the storm. Notably, 18 percent say their child's school situation is worse than before the storm, but a similar share (14 percent) say it is better.



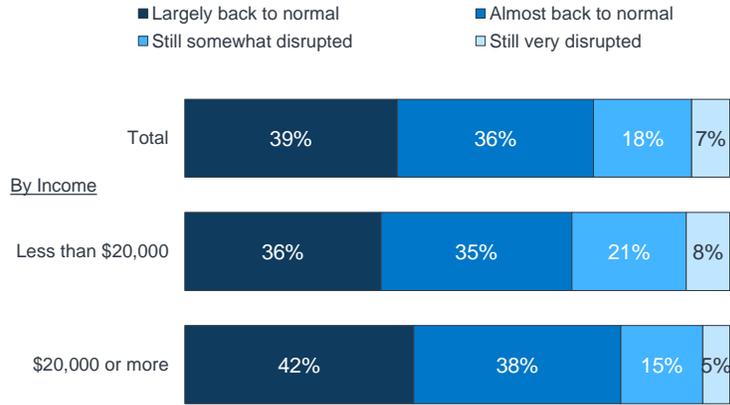
Section 2: Moving Forward with Recovery and Continued Need

Just shy of a year after Hurricane Maria devastated Puerto Rico, about four in ten (39 percent) say their day-to-day life is largely back to normal and another 36 percent say it is almost back to normal. For a quarter (25 percent), they report their lives are still somewhat or very disrupted (18 percent and 7 percent, respectively). Those with lower incomes (less than \$20,000 annually) are more likely than others to say their lives are still very or somewhat disrupted (29 percent vs. 21 percent). The responses from Puerto Ricans are in stark contrast with the U.S. public’s assessment of how people in Puerto Rico are faring – 85 percent say they think day-to-day life for most people in Puerto Rico is still somewhat (39 percent) or very (46 percent) disrupted.¹³

Figure 17

A Quarter Of Adults In Puerto Rico Report Their Day-To-Day Life Is Still Disrupted Nearly One Year After The Storm

AMONG PUERTO RICO RESIDENTS: Which of the following best describes your personal situation in terms of recovering from Hurricane Maria? Would you say that your day-to-day life is...?



NOTE: "Largely back to normal" includes the share who say "Totally back to normal (Vol.)," and "Life was not disrupted by Maria (Vol.)." Don't know/Refused responses not shown.
SOURCE: Washington Post/Kaiser Family Foundation Survey of Puerto Rico Residents (July 3-August 29, 2018)

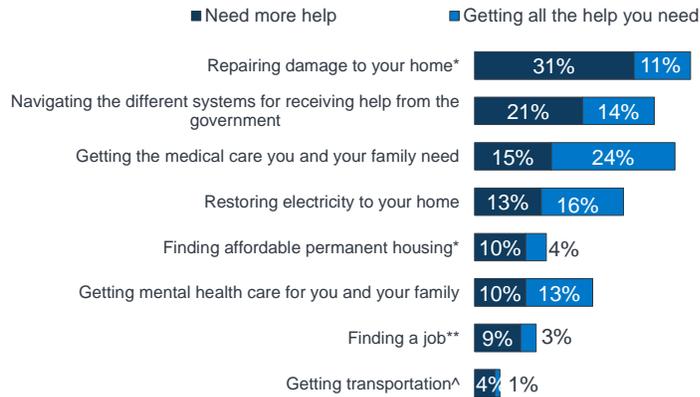


In terms of the ongoing needs people have, about three in ten (31 percent) say they need more help repairing damage to their home, topping the list of needs asked about. Around two in ten (21 percent) report needing more help navigating the different systems for receiving help from the government. Lower on the list are issues like getting the medical care they and their family need (15 percent), restoring electricity to their home (13 percent), finding affordable permanent housing (10 percent) and getting mental health care for themselves or a family member (10 percent). Those with lower incomes more often report needing more help in many of these areas than others, particularly in repairing their damaged homes (37 percent vs. 23 percent) and navigating aid systems (25 percent vs. 14 percent).

Figure 18

Three In Ten Report Needing More Help Repairing Damage To Their Home, Topping List Of Ongoing Needs

AMONG PUERTO RICO RESIDENTS: For each of the following areas, please tell me if you need more help than you are getting, you're getting all the help you need, or if this isn't an issue for you?



NOTE: Not an issue for you and Don't know/Refused responses not shown. * items asked of those who reported home damage. ** item asked of those who reported loss of income. ^ item asked of those who reported damage to a vehicle. Percentages based on total.
SOURCE: Washington Post/Kaiser Family Foundation Survey of Puerto Rico Residents (July 3-August 29, 2018)

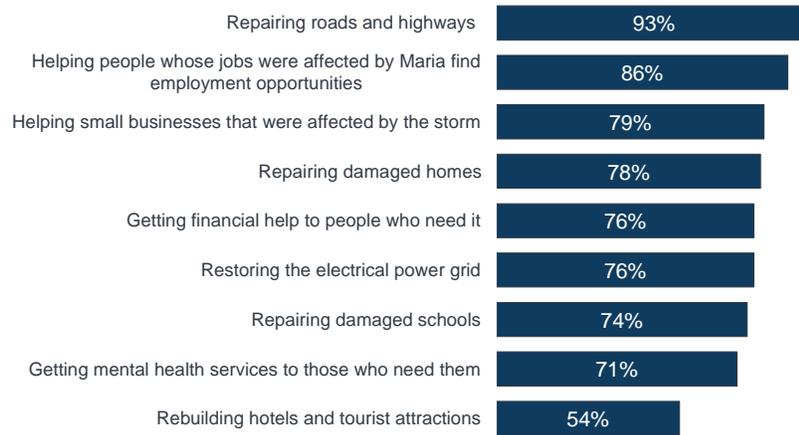


While relatively few say they need more help personally, large majorities say that more resources are necessary in a number of areas for rebuilding and recovering from the hurricane. Nearly everyone in Puerto Rico (93 percent) says more resources are necessary to rebuild roads and highways. Other areas with large shares of Puerto Ricans saying more resources are needed include: helping people whose jobs were affected by Maria find new employment (86 percent), helping small business recover (79 percent), repairing damaged homes (78 percent), and generally getting financial help to those who need it (76 percent). Notably, most adults in Puerto Rico don't see restoring electricity to their home as something they personally need more help with, perhaps because the vast majority report now having grid power; however, a large majority (76 percent) see restoring the electrical grid as an area where more resources are necessary for the rebuilding and recovery efforts.

Figure 19

Majorities Say More Resources Are Necessary To Rebuild And Recover From Hurricane Maria

AMONG PUERTO RICO RESIDENTS: Percent who say “more resources are necessary” for the rebuilding and recovery efforts in each area:

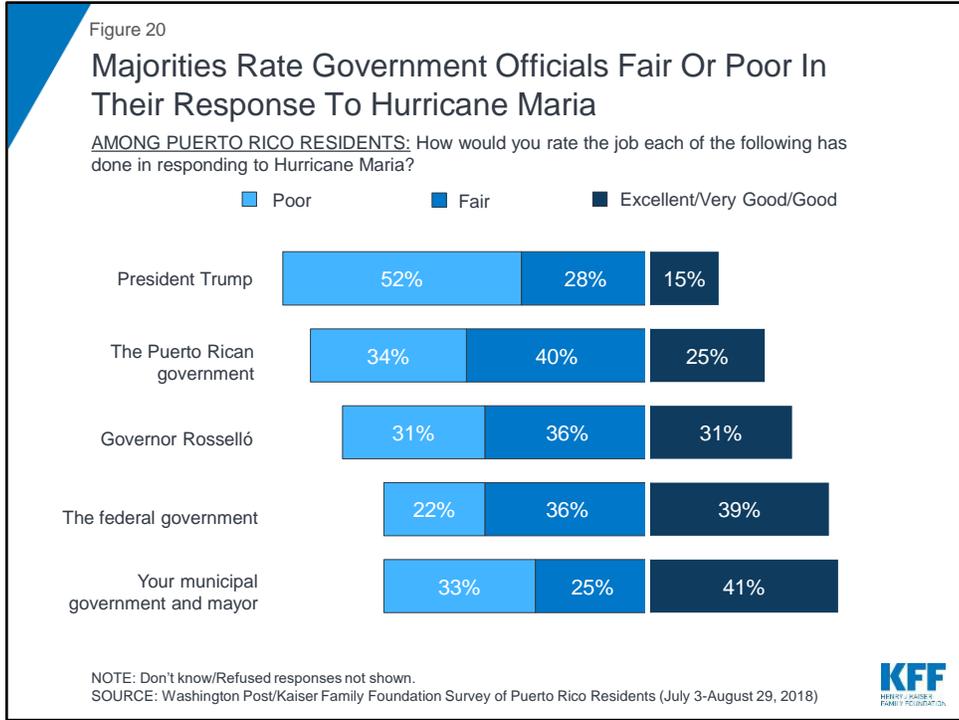


SOURCE: Washington Post/Kaiser Family Foundation Survey of Puerto Rico Residents (July 3-August 29, 2018)

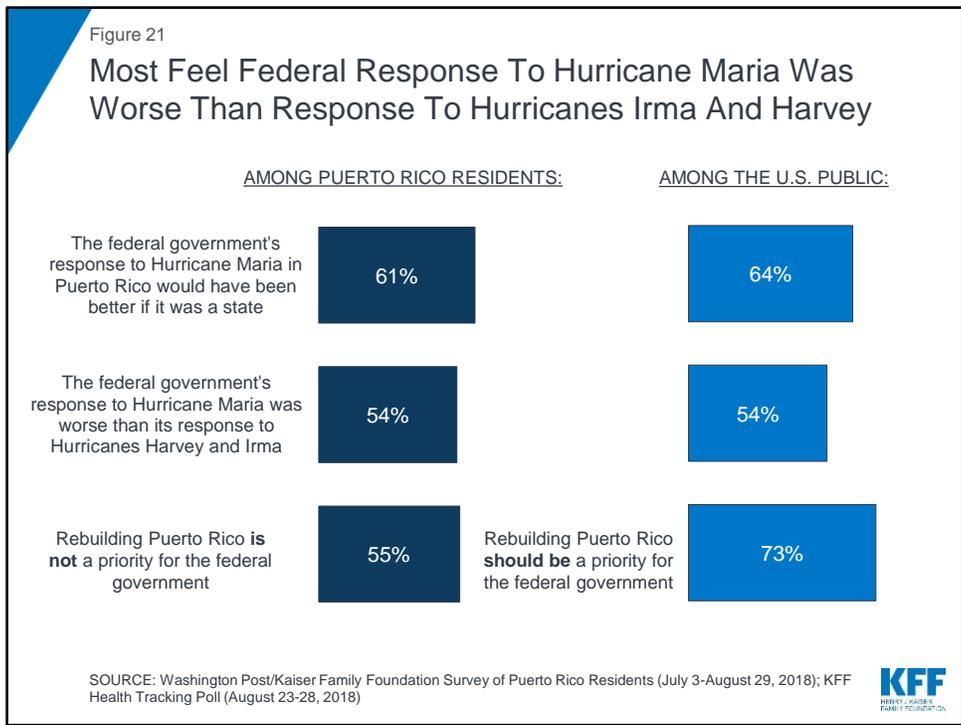


Views of Government’s Response and Priorities

Majorities of adults living in Puerto Rico have negative impressions of how all levels of government responded to the storm. The most negative response was for President Trump, with 80 percent rating his response to the hurricane as fair or poor, including 52 percent who say poor. The Puerto Rican government and Governor Rosselló have roughly seven in ten rating their response negatively, followed by six and ten giving a fair or poor rating to their municipal government and mayor (58 percent) and the federal government (58 percent) for the job each has done responding to Maria.



Many express apprehension of Puerto Rico's standing in the U.S. and how that may have affected the response and the ongoing recovery. More than half (55 percent) say that rebuilding Puerto Rico is *not* a priority for the federal government, although nearly three-quarters the U.S. public thinks it *should be* (73 percent). Majorities of both Puerto Ricans and the U.S. public say the federal government's response to Hurricane Maria was *worse* than its response to Hurricanes Harvey and Irma that struck Texas and Florida around the same time and that the federal government's response to Maria would have been *better* if Puerto Rico were a state.¹⁴



Looking Toward the Future

Puerto Ricans lean toward being optimistic about the future. Half say they're optimistic (50 percent) and a similar share (43 percent) say they are pessimistic about the future of Puerto Rico. While there are many reasons why views in Puerto Rico after Hurricane Maria may be different from views of people in New Orleans after Hurricane Katrina, such as cultural differences or the area's economic situation, many more in New Orleans said they were optimistic about the future of the area one year after the storm (70 percent).¹⁵

Puerto Rico has been experiencing outward migration for some time now and Hurricane Maria's devastation has only exacerbated that movement or interest in leaving.¹⁶ Two-thirds of adults in Puerto Rico (68 percent) say that a close friend or family member moved away from the island because of Hurricane Maria. About a quarter (27 percent) say that they, themselves, are currently planning to move or are seriously considering moving away from Puerto Rico. Roughly half as many in New Orleans one year after Hurricane Katrina said they were seriously considering moving away (12 percent); however, this share rose over time to 28 percent in 2015, 10 years after Hurricane Katrina.

Figure 22

Many Say Friend Or Family Member Left Puerto Rico After The Hurricane

AMONG PUERTO RICO RESIDENTS: Percent who say...



SOURCE: Washington Post/Kaiser Family Foundation Survey of Puerto Rico Residents (July 3-August 29, 2018)

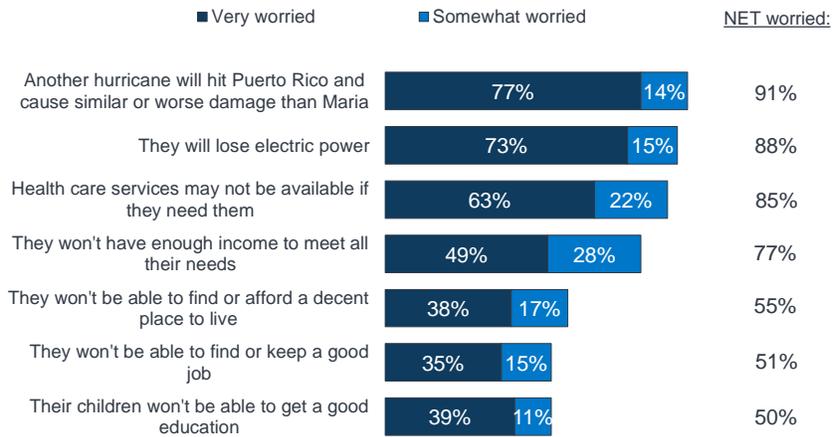


Perhaps contributing to this sense of pessimism for some are worries about the future in Puerto Rico. The vast majority express concern that another hurricane will hit the island and cause similar or worse damage (91 percent) or that they will lose electric power (88 percent). Many also report worrying about health services not being available when they need them (85 percent) and not having enough income to meet their needs (77 percent). In addition, about half report being worried about affording housing (55 percent), finding a good job (51 percent), or their kids getting a quality education (50 percent).

Figure 23

Many Adults In Puerto Rico Report Worries About Future Hurricanes, Electricity, And Health Care

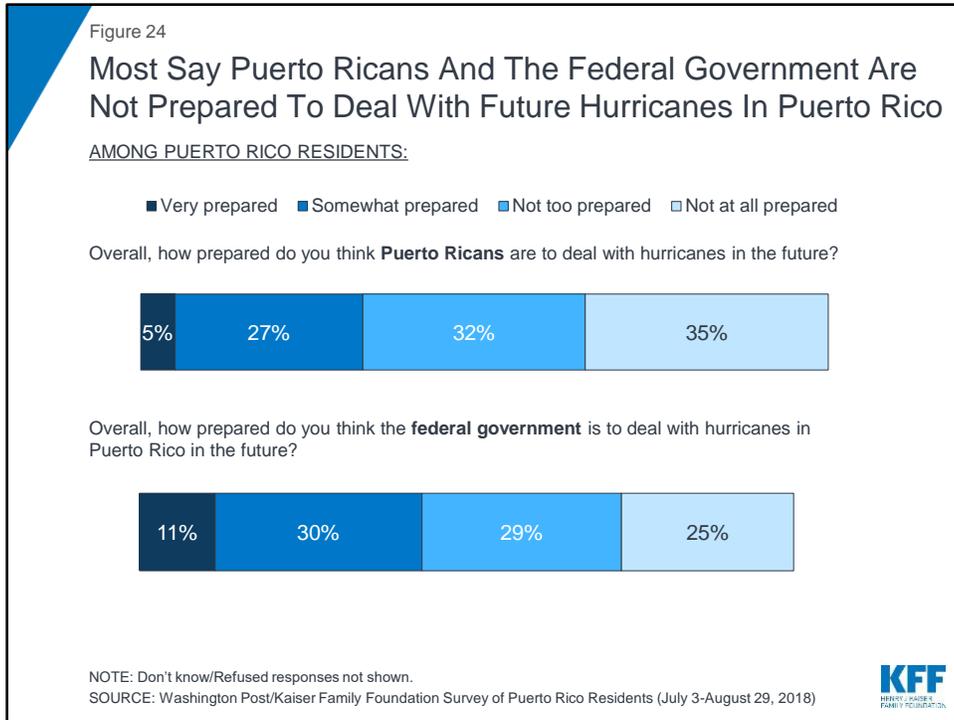
AMONG PUERTO RICO RESIDENTS: Percent who say they are “very worried” or “somewhat worried” about each of the following:



SOURCE: Washington Post/Kaiser Family Foundation Survey of Puerto Rico Residents (July 3-August 29, 2018)



When asked how prepared Puerto Ricans and the federal government are to deal with future hurricanes in Puerto Rico, majorities say both are not too or not at all prepared (67 percent and 54 percent, respectively), including more than a third (35 percent) who say Puerto Ricans themselves are not at all prepared to deal with hurricanes in the future. However, 81 percent say they and their family have personally taken steps to prepare for future hurricanes in their area.



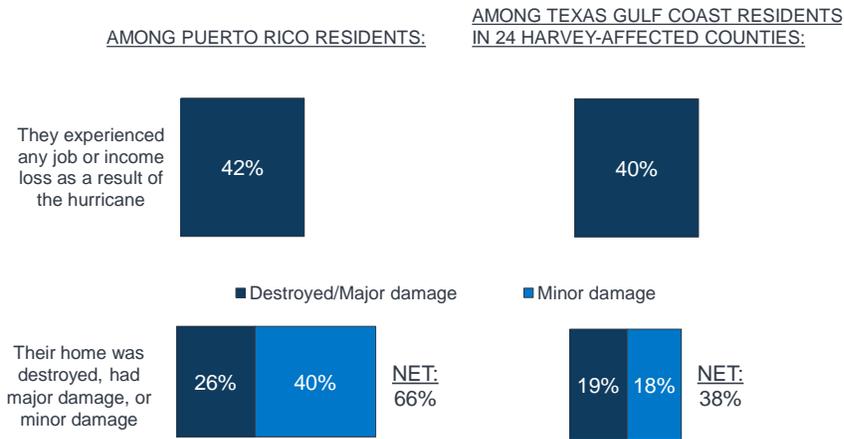
Comparing Experiences in Texas Gulf Coast Area After Hurricane Harvey

Another category 4 hurricane, Hurricane Harvey, struck the Houston, Texas area on August 25, 2017, about a month before Hurricane Maria hit Puerto Rico, and caused major flooding and damage. The Kaiser Family Foundation in partnership with the Episcopal Health Foundation has conducted two surveys of adults living in 24 counties along the Texas coast that were particularly hard hit by Harvey. The first survey was conducted between two and three months after the storm and the second was conducted this summer prior to the one year anniversary. While the communities affected – as well as the storms and their impacts – differ in several ways, comparisons can be made to understand how people in each place are coping and rebuilding.

In Puerto Rico and the Texas Gulf Coast area, similar shares report experiencing job or income losses as a result of the storm. However, more in Puerto Rico report their home was damaged during the storm than those in the Texas Gulf Coast area (66 percent vs. 38 percent), but most of this difference is due to the fact that more in Puerto Rico report minor damage than in the Gulf Coast area (40 percent vs. 18 percent), likely because Hurricane Harvey resulted in a lot of flood damage whereas Hurricane Maria's damage was more wind-related.

Figure 25

Puerto Ricans Are More Likely To Report Home Damage Than Texas Gulf Coast Residents After Hurricanes



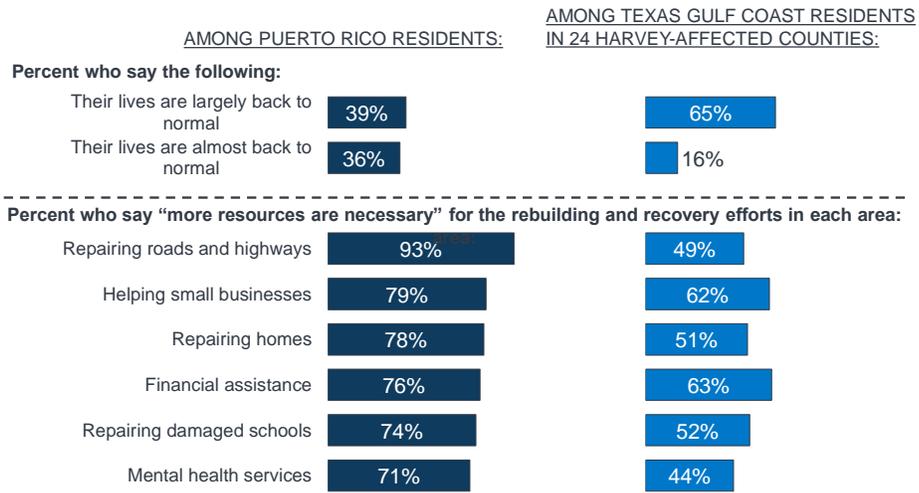
SOURCE: Washington Post/Kaiser Family Foundation Survey of Puerto Rico Residents (July 3-August 29, 2018); KFF/Episcopal Health Foundation Harvey Anniversary Survey (June 21-July 29, 2018)



In terms of the recovery, Puerto Ricans are less likely than Texas Gulf Coast residents to say their lives are largely back to normal (39 percent vs. 65 percent), however, when including those who say their life is almost back to normal, the shares are similar in both areas (81 percent in the Texas Gulf Coast area and 75 percent in Puerto Rico). Similar shares of Texas Gulf Coast and Puerto Rico residents report personally needing more help in a number of areas, but more in Puerto Rico say more resources are necessary for rebuilding and recovering in the following areas: repairing roads and highways (93 percent vs. 49 percent), repairing homes (78 percent vs. 62 percent), getting financial assistance to those who need it (76 percent vs. 63 percent), getting mental health services to those who need them (71 percent vs. 52 percent), repairing damaged schools (74 percent vs. 44 percent), and helping small businesses affected by storm (79 percent vs. 51 percent). Puerto Ricans are also much less likely to feel like the federal government is prepared to deal with future hurricanes in the area than people in the Texas Gulf Coast area (41 percent vs. 64 percent).

Figure 26

Puerto Ricans More Likely To Say More Resources Are Necessary To Rebuild After Hurricanes



NOTE: "Largely back to normal" includes the share who say "Totally back to normal (Vol.*)" and "Life was not disrupted by Maria/Harvey (Vol.)."

SOURCE: Washington Post/Kaiser Family Foundation Survey of Puerto Rico Residents (July 3-August 29, 2018); KFF/Episcopal Health Foundation Harvey Anniversary Survey (June 21-July 29, 2018)



Economic Impacts and Worries More Pronounced Among Working-Age Puerto Ricans

Adults of working age more often report employment-related impacts of the storm and corresponding economic challenges such as trouble paying their rent or mortgage, problems paying for food, or having to borrow money from friends or family to make ends meet. Working-age adults are also more likely to say they are very worried about their economic future and large shares see close friends or family moving away from Puerto Rico.

Table 2: Economic Impacts and Worries More Pronounced Among Working-Age Puerto Ricans		
	Age 18-64	Age 65+
Employment Impacts: As a result of Hurricane Maria, percent who say they have...		
Been laid off or lost a job	14%	4%
Had overtime or regular hours cut back at work	35%	8%
Had any other loss of income, such as lost income from a small business or unpaid missed days of work	28%	10%
Any of the Above	50%	16%
Financial Impacts: Percent who say they or any other adult in their household has...		
Fallen behind in paying their rent or mortgage	20%	7%
Had problems paying for food	28%	18%
Taken on an extra job or worked extra hours to make ends meet	27%	4%
Borrowed money from friends or relatives to make ends meet	28%	13%
Any of the Above	53%	28%
Concerns about their financial future: Percent who say they are...		
Very worried they won't have enough income to meet all their needs	53%	35%
Very worried they won't be able to find or afford a decent place to live	43%	20%
Very worried they won't be able to find or keep a good job	44%	8%
Leaving Puerto Rico: Percent who say they...		
Have close friends or family members who moved away from Puerto Rico because of Hurricane Maria	73%	49%
Are currently planning to move or seriously considering moving away from Puerto Rico	33%	11%

Conclusion

After Hurricane Maria walloped the U.S. territory of Puerto Rico last year, an area already facing widespread poverty and in economic crisis, it left the people of Puerto Rico with a wide range of challenges, from long-term power outages and challenges accessing fresh water to home damage and economic setbacks. This survey, the first comprehensive representative survey in Puerto Rico after the hurricane, helps illuminate what the people of Puerto Rico went through after the storm, how they are faring now, and what their ongoing needs are, finding that some still see their lives as disrupted or personally need more help rebuilding their homes, and many say more resources are necessary to rebuild in a variety of areas, including roads and highways and the power grid. Those with lower incomes or closer to the center of the storm were more often impacted demonstrating that, while the impact was nearly universal, it was not uniform and some areas and people may need more help rebuilding than others. And, while about half of Puerto Ricans are optimistic about the future, majorities feel Puerto Ricans and the federal government are not prepared for future hurricanes in the area.

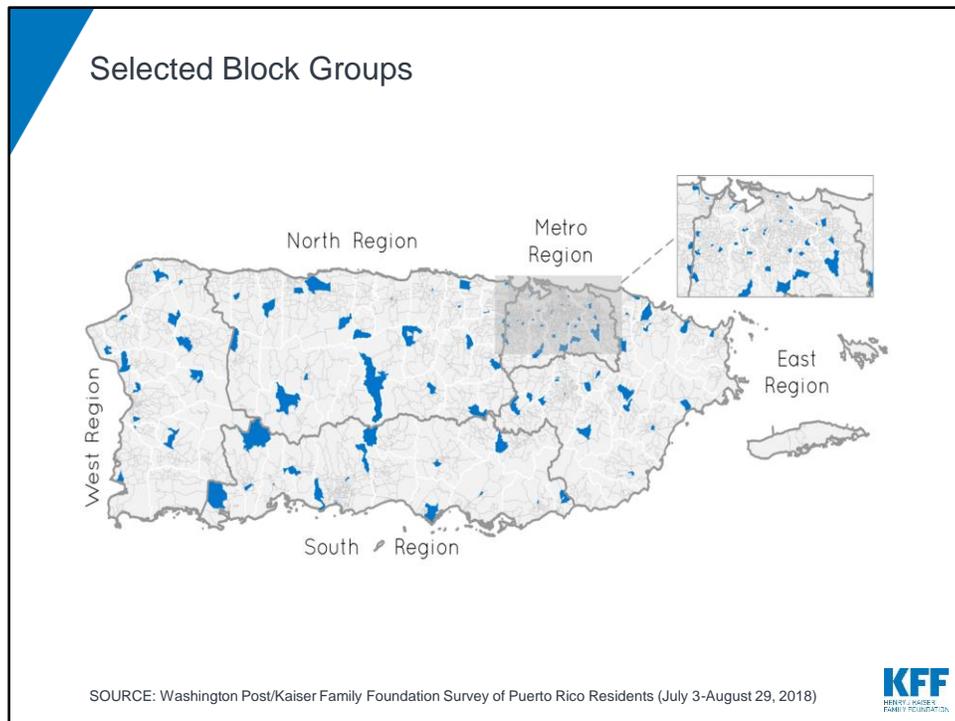
Methodology

The Washington Post-Kaiser Family Foundation Survey Project is a partnership combining survey research and reporting to better inform the public. The Post-Kaiser Survey of Puerto Rico Residents, the 33rd in the series, was conducted in-person from July 3 to August 29, 2018 among a random sample of 1,500 adults ages 18 or older residing in Puerto Rico who were living there when Hurricane Maria struck the island on September 20, 2017. Computer-assisted in-person interviews were conducted at the respondent's home and were carried out in Spanish.

Sampling, questionnaire translation, data collection and weighting were managed by Estudios Tecnicos of San Juan, Puerto Rico in close collaboration with The Washington Post and the Kaiser Family Foundation. SSRS of Glen Mills, Pennsylvania provided methodological consultation and data tabulations.

Sample Selection and Fieldwork

To ensure representation across Puerto Rico, the sample was stratified into five regions comprised of Puerto Rico's 78 municipalities. These included Metropolitan, North-Central, West, East and South. Across all regions, 100 Census Block Groups were randomly sampled in proportion to each region's size (i.e. more Block Groups were selected in more populous areas) and 15 interviews with randomly selected adults were conducted in each Block Group. The sample frame was based on the 2010 U.S. Census of Population and Housing in Puerto Rico and the 2016 Puerto Rico American Community Survey. Regions and selected Block Groups are identified in the map below.



In order to randomly select adults to interview, interviewers went to a randomly selected block within each Block Group. The first household was selected randomly and subsequent households were selected following a systematic pattern (i.e. every fifth house or every sixth house). Interviewers made three attempts at different times of the day and different days of the week at each randomly selected household until an interview or a hard refusal was obtained. If the selected household was not available, the interviewer went to the house immediately next door. These field methods were put in place to ensure a representative sample of people who were home at different times, rather than just including the people who were easiest to find at home.

When an interviewer made contact with a randomly selected household, an eligible adult within the household was randomly selected to complete the interview by asking for the eligible adult at home with the next or last birthday based on a random rotation.

Weighting and Data Processing

A multi-stage weighting process was applied to ensure an accurate representation of the Puerto Rican population. The first stage of weighting involved computing a household weight and was followed by the creation of a population weight. The sample was then weighted to match demographic estimates for the Puerto Rican population using data from the Census Bureau's 2012-2016 American Community Survey on sex and age within each region and that regions are proportionately representative of the adult Puerto Rico population. Finally, data were balanced by education using the overall 2016 Puerto Rico ACS estimates.

At the end of the field period, Estudios Tecnicos and SSRS completed several data validation processes on the data that included: internal validity checks, testing for straightlining and analyzing paradata (interviewer workload, interview length, interview time and overlap of interviews). The Kaiser Family Foundation, along with SSRS, also conducted a percent-match procedure to identify cases that share a high percentage of identical responses to a large set of questions. This extra validation measure allows for detection of possible duplicate data, whether as a result of intentional falsification or due to errors in data-processing.

All sampling error margins and tests of statistical significance have been adjusted to account for the stratified, cluster sampling design and weighting. The margin of sampling error for the total sample is plus or minus 3.5 percentage points. The margin of sampling error may be higher for subgroups and specific questions. Note that sampling error is only one of many potential sources of error in this or any other public opinion poll. All statistical tests of significance account for the effect of weighting and sampling design.

The Kaiser Family Foundation and The Washington Post paid for the survey and representatives of The Washington Post and the Kaiser Family Foundation worked together to develop the survey questionnaire and analyze the results. Each organization bears the sole responsibility for the work that appears under its name. The project team from the Kaiser Family Foundation included: Mollyann Brodie, Ph.D., Bianca DiJulio and Cailey Muñana. The project team from The Washington Post included: Scott Clement and Emily Guskin. Both The Washington Post and the Kaiser Family Foundation public opinion and survey research are charter members of the [Transparency Initiative](#) of the American Association for Public Opinion Research.

¹ Because the survey only includes adults who are currently in Puerto Rico, it does not include those who experienced the hurricane but have since left the territory and have not returned. The latest estimates of net air traffic movement is negative 155,000 in the first 10 months of fiscal year 2018, representing a relatively small share of Puerto Rico's population. Caribbean Business, Some 72,000 people return to Puerto Rico in first 4 months of 2018, <https://caribbeanbusiness.com/some-72000-people-return-to-puerto-rico-in-first-4-months-of-2018>

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This publication (#9233) is available on the
Kaiser Family Foundation's website at kff.org.

The Kaiser Family Foundation
is a nonprofit organization
based in San Francisco, California.