Assessment of Health Needs in the Rockaways Post-Hurricane Sandy
Doctors of the World USA

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DOCTORS OF THE WORLD

Doctors of the World (Médecins du Monde) is an international humanitarian organization that provides emergency and long-term medical care to vulnerable populations while fighting for equal access to healthcare worldwide. Shortly after Hurricane Sandy hit the northeastern United States in October 2012, Doctors of the World USA launched a medical relief effort in the Rockaways section of Queens, New York. In October 2013 the organization opened a free clinic there to continue to serve the uninsured residents of the area. While active in 79 countries, this is Doctors of the World’s first program in the United States.

COLUMBIA SCHOOL OF INTERNATIONAL AND PUBLIC AFFAIRS

Columbia University’s School of International and Public Affairs (SIPA) was founded in the aftermath of World War II and places emphasis upon practical training. Graduate students are required to participate in a substantive, policy-oriented project with an external client called a capstone workshop during their final semester. In this case, graduate students Karly Bennett, Doyeun Kim, Suchi Mathur, Carla Pellegrini, Mengting Shui, Meredith Smith and Marissa Strniste and Professor Eva Weissman joined forces with Doctors of the World USA to design and implement a health survey of the Rockaways, analyze the resulting data, and co-write this report.
ACKNOWLEDGEMENTS

The capstone team would like to thank the people who have guided and supported this project by sharing not only their knowledge and expertise, but also their valuable time and enthusiasm. Particular thanks to Professor Eva Weissman for her guidance and generous support throughout the project, Professor Linda Cushman for her invaluable advice on survey design, and Professors Cristian Pop-Eleches and Paul Thurman for sharing their statistical expertise in refining our sampling methodologies.

Doctors of the World USA would like to thank the capstone team and the broader Columbia SIPA community for their dedicated work and continued support of this project and the Rockaways’ recovery. We would like to thank program manager Noah Barth for spearheading our involvement in this project. We would also like to thank all of our community partners and supporters.

Doctors of the World USA and Columbia SIPA especially want to recognize our wonderful volunteers who canvassed the Rockaways with us; without them this project would not have been possible. Many thanks are due to the Visiting Nurse Service of New York, the Rockaway Youth Task Force, New York Cares, World Cares Center, students from various programs at Columbia University, and Doctors of the World USA staff and volunteers, all of whom enabled us to complete hundreds of surveys. We are especially grateful for the generosity of Jerry Rea of Affordable Auto Sales, Donald D’Avanzo, Whitney Aycock of Whit’s End Pizza, and Pastor Dennis Loncke and Chaplain Nigel Loncke of Arverne Pilgrim Church in consistently supporting our efforts and showing us just how big-hearted a community the Rockaways can be.

We would also like to thank the nearly 400 Rockaway residents who took time from their days, opened their homes, and shared their lives with us. We appreciate their candidness, their sincerity, and their patience.

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EXECUTIVE SUMMARY

The devastation wrought by Hurricane Sandy in October 2012 was nowhere more apparent than on New York City’s Rockaway Peninsula, an 11-mile-long strip of land separating Jamaica Bay from the Atlantic Ocean. More than 50 percent of all claims the Federal Emergency Management Agency received in the state came from residents of this remote section of Queens. The immediate images were stark: homes and businesses destroyed, thousands of elderly people trapped in high-rises because elevators stopped working, and raw sewage spilled into homes after a sewage plant flooded.1 As the water receded, black mold began to grow in the houses that survived.

To help the 114,978 residents of the Rockaways, Doctors of the World USA launched an initiative known as Treat, Connect, Restore. It continued through June 2013, assessing the medical needs of affected and displaced residents of the area, connecting those with unmet health needs to volunteer doctors and other services, and supporting a locally driven response to restore community’s health and well-being.

While carrying out the initiative, Doctors of the World USA realized how poor the Rockaways’ healthcare infrastructure was. So, in October 2013 the Doctors of the World Rockaways Free Clinic opened, providing free medical care to uninsured and undocumented residents. It was the organization’s first project in the United States.

While the decision to open the clinic was guided by a clear need for services, Doctors of the World USA also recognized the lack of systematic and comprehensive data on health needs after Hurricane Sandy in the Rockaways, as the cluster of neighborhoods are called. This study aims to fill that void by producing information that can inform the work of the clinic as well as be used by the broader community for advocacy and future interventions.

Between January and April 2014, the Columbia SIPA team and Doctors of the World USA designed and implemented a survey to assess the health-related vulnerabilities of Rockaways residents. The findings suggest that those who were vulnerable before Hurricane Sandy were the most affected in terms of health outcomes afterward. We found that lower- and moderate- income groups faced significant barriers to getting care. We also found some encouraging signs regarding health insurance and the use of existing resources. A few of the major findings are listed below:

• More than a year and a half after Hurricane Sandy, about 49 percent of all survey respondents said their homes currently have at least one outstanding issue, ranging from roof damage or leaks to not having a functioning kitchen or bathroom.

• There is a strong correlation between material damages experienced due to Hurricane Sandy and post-storm stress, depression, and anxiety.

1 John Manuel, The Long Road to Recovery: Environmental Health Impacts of Hurricane Sandy (NIEHS, 2013)
• More than 41 percent of respondents who described themselves as being in “fair” or “poor” health reported needing care in the past year but not getting it.

• The three barriers to accessing medical care that people cited the most were long wait time (26 percent), inconvenient hours of operation (22 percent), and expensive services (22 percent).

• Of the responses citing additional barriers to accessing care, about 46 percent of respondents cited a lack of facilities and limited services as the main ones.

• Approximately 20 percent of people interviewed do not have a primary care doctor. Of those who do, nearly half saw their doctor within the last month and another 37 percent within the past six months.

• Although 87 percent of respondents have health insurance, many respondents with coverage still reported having difficulty accessing care. Ten percent of people with insurance reported needing care but not getting it in the past year; at least a third of those with insurance said they would use services from a free health clinic if available.

• Healthcare access difficulties were not limited to the poorest. Nearly one fifth of people (19.2 percent) in the second highest income bracket reported needing medical care in the past year and not receiving it.

• Respondents expressing interest in services from a free local health clinic expressed the strongest interest in general physical exams, immunizations, dental care, and eye care.

• Of the three largest ethnic groups in the Rockaways, residents who identified themselves as white were most likely to have health insurance (94 percent), and residents who identified themselves as Hispanic were the least likely to be covered (33 percent).

• More than a fifth (21 percent) of people at the lowest income level do not have health insurance.

• The survey had difficulty accessing undocumented respondents, which itself suggests the need for greater health outreach and access links for this most vulnerable segment of the population.

One obvious conclusion from this study is that no one is immune to health needs. Regardless of ethnicity, nationality, income level, age, or gender, we all need care. Furthermore, there are times when all of us need more than is available. Bold steps are required at all levels of government to re-envision how healthcare is delivered in this country. The effort to improve the country’s system does not stop with the Affordable Care Act; it does not stop with Medicaid reform; it does not stop with the opening of one free clinic. Our challenge is ongoing, until every man, woman, and child living in the country is able to get the care they need, when they need it.
INTRODUCTION

Demographics of the Rockaways

The Rockaway Peninsula, commonly called the Rockaways, is a diverse neighborhood of Queens in terms of ethnic make-up and socioeconomic strata. Of its total population of 114,978, 38.8 percent of residents are black, 35.2 percent are white, 21 percent are of Hispanic origin, and 2.3 percent are Asian or Pacific Islanders.\(^2\) Compared with Queens overall, the Rockaways has a larger percentage of black residents and a much smaller percentage of Asian residents.

Similar to Queens, the Rockaways has more women than men, with 53 percent of the residents being female and 47 percent male.\(^3\) The proportion of the population older than 65, 13.3 percent, is slightly higher in the Rockaways than in Queens overall.

While only 11 miles from end to end, the peninsula is home to a wide variety of households and communities. Median household income varies significantly by ZIP code, and observers often divide the area into east and west, with the western end being significantly wealthier. On the far western end, Breezy Point is the least diverse census tract in all of New York City and has the largest concentration of U.S.-born whites (95 percent).\(^4\)

The Rockaways has a long history of being home to group facilities and New York City Housing Authority (NYCHA)\(^5\) buildings, most of which are clustered in the eastern end of the peninsula. It has had large amounts of low-income public housing since the 1950s, and by the end of the 1970s, the peninsula contained half of the public housing projects in Queens, though it had only 0.05 percent of the borough’s population. By the 1980s, the Rockaways had more group homes and nursing facilities than any other part of New York.\(^6\)

Average household income in many areas of the Rockaways falls below the average in Queens, which in 2010 was $56,780. On the eastern end of the peninsula, ZIP code 11691—home to nearly 50 percent of Rockaway households—has the lowest median household income at $38,631. Toward the western end, average household incomes exceed the Queens average, starting in 11694 with a

<table>
<thead>
<tr>
<th>Racial Diversity</th>
<th>Rockaways</th>
<th>Queens</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black</td>
<td>38.8 percent</td>
<td>19.1 percent</td>
</tr>
<tr>
<td>White</td>
<td>35.2 percent</td>
<td>39.7 percent</td>
</tr>
<tr>
<td>Hispanic Origin</td>
<td>21 percent</td>
<td>27.5 percent</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>2.3 percent</td>
<td>23 percent</td>
</tr>
</tbody>
</table>

\(^2\) Since the 2000 Census, the Rockaways’ population has grown by 7.8 percent.
\(^5\) The agency administers subsidized public housing projects
median of $73,893 and reaching a median of $86,731 in 11697 in Breezy Point. The various ZIP codes also have distinct racial compositions, with 11692 having a majority black population (69 percent) and 11697 having an almost exclusively white population. (Breezy Point was omitted from the survey for logistical reasons.)

<table>
<thead>
<tr>
<th>Rockaways Demographic Data by ZIP code (2010 Census)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>11691</strong></td>
</tr>
<tr>
<td>(includes Far Rockaway)</td>
</tr>
<tr>
<td><strong>11692</strong></td>
</tr>
<tr>
<td>(includes Arverne)</td>
</tr>
<tr>
<td><strong>11693</strong></td>
</tr>
<tr>
<td>(includes Rockaway Beach)</td>
</tr>
<tr>
<td><strong>11694</strong></td>
</tr>
<tr>
<td>(Rockaway Park and Belle Harbor)</td>
</tr>
<tr>
<td><strong>11697</strong></td>
</tr>
<tr>
<td>(Breezy Point)</td>
</tr>
</tbody>
</table>

**Health Vulnerabilities and Hurricane Sandy**

Serious health concerns existed in the Rockaways before Hurricane Sandy hit in October 2012. According to data from the New York City Department of Health and Mental Hygiene, a higher percentage of the residents suffer from chronic conditions, including diabetes and high blood pressure, than the New York City average. The data also indicate higher than average rates for a wide range of other health conditions including heart disease-related hospitalization and death, drug-related hospitalization and death, alcohol-related hospitalization, smoking, obesity, mental illness, childhood asthma, infant mortality, and a lack of timely prenatal care for mothers.

In April 2012, six months before Hurricane Sandy, Peninsula Hospital, one of two hospitals in the Rockaways, closed. After the hurricane, smaller facilities like the Joseph P. Addabbo Family Health Center remained, but many private clinics and doctors’ offices shut down and never reopened.

Sandy had an immediate impact on the health of Rockaways residents. But there were dangerous long-term effects as well, as are discussed in this study. Mold grew in flooded homes and exacerbated symptoms in those with asthma, and to upper respiratory tract symptoms in otherwise healthy individuals.

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7 See Appendix A: Methodology for details.
8 Community Health Profiles: Rockaways (New York: New York City Department of Health and Mental Hygiene, 2006, second ed.).
9 Ibid.
HEALTH STATUS FINDINGS

General Health

A majority of survey respondents rated their health as “good,” and significantly more respondents (18 percent) rated their health as “excellent” as opposed to “poor” (7 percent), the best and worst options, respectively.

While 65 percent of respondents noted that their health has stayed the same since Hurricane Sandy (), 23 percent described their health as having declined since the storm.

Health outcomes showed a strong correlation to income level. Residents in the highest income bracket (more than $56,000 annually) were almost twice as likely to describe their health as “excellent” or “very good” than residents in the lowest income bracket (less than $16,000 annually). Respondents living in that bracket were also more than twice as likely to rate their health as “poor” when compared with people in the highest income bracket.

![Health Status by income](chart.png)

Data from this survey provide useful comparisons with the most recent health data collected by the city for the Rockaways. The Community Health Survey (CHS) administered by the Department of Health and Mental Hygiene to a sample of 8,500 randomly selected adults throughout New York City was last carried out in 2012. It is important to note that most of the CHS data for the Rockaways are based on a less reliable subsample of the entire New York City sample, signaling potentially unreliable data. Nevertheless, the numbers provide rough points of comparison for health indicators before and after Sandy.

Self-reported general health status was different in the Doctors of the World survey than it was in the 2012 CHS. In 2012, respondents were more likely to rate their health at either the best (“excellent”) or worst (“fair or poor”) of the spectrum. When compared with the 2012 CHS data for New York City overall, the Doctors of the World survey found self-rated health to be worse in the Rockaways.
General Health Status Comparison

<table>
<thead>
<tr>
<th></th>
<th>Excellent</th>
<th>Very good</th>
<th>Good</th>
<th>Fair/Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHS 2012, Rockaways</td>
<td>22.1</td>
<td>18.3</td>
<td>27.6</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td>percent</td>
<td>percent</td>
<td>percent</td>
<td>percent</td>
</tr>
<tr>
<td>CHS 2012, NYC Average</td>
<td>17.9</td>
<td>27.9</td>
<td>33.1</td>
<td>21.1</td>
</tr>
<tr>
<td></td>
<td>percent</td>
<td>percent</td>
<td>percent</td>
<td>percent</td>
</tr>
<tr>
<td>Doctors of the World Survey 2014</td>
<td>18.1</td>
<td>24.4</td>
<td>29.9</td>
<td>26.5</td>
</tr>
<tr>
<td></td>
<td>percent</td>
<td>percent</td>
<td>percent</td>
<td>percent</td>
</tr>
<tr>
<td>Without Health Insurance, Doctors of the World Survey 2014</td>
<td>13</td>
<td>13</td>
<td>35</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>percent</td>
<td>percent</td>
<td>percent</td>
<td>percent</td>
</tr>
</tbody>
</table>

The data on access to primary care doctors (80 percent of respondents had a primary care doctor) show a decline from the 2012 CHS, which found that slightly more than 88 percent of Rockaways residents had a “personal doctor,” defined as a person they think of as their personal doctor or healthcare provider.

Disease Burden

The survey listed eight common health issues and asked respondents whether they believed they currently had any of them. The most prevalent condition from the listed diseases was joint pain, with 37 of respondents stating they currently suffer from it, followed closely by allergies (36.5 percent). Weight issues (29 percent) and high cholesterol (25 percent) also were commonly reported health concerns.

Examining the survey’s disease burden data by gender produced interesting disparities: the conditions with the largest differences were diabetes, which was reported by 25 percent of men but only 10 percent of women; high cholesterol, reported by 30 percent of men and 23 percent of women; and weight issues, reported by 32 percent of women but only 25 percent of men. Environmental factors also showed differential correlations to disease outcomes. For example, there was a higher incidence of asthma among respondents who live in NYCHA buildings (20 percent) when compared with the rest of the sample (14 percent). Even more markedly, residents whose homes were damaged by Hurricane Sandy reported suffering from allergies at a significantly higher rate (45 percent) than people whose homes were not damaged (28 percent).

Health outcomes also varied by respondents’ income level with a clearly higher burden on lower income groups. While only 8 percent of people with incomes greater than or equal to $56,000 reported having diabetes, the incidence grew to more than 23 percent among those with incomes less than $16,000. High cholesterol was also more common among the lowest income bracket (32.3 percent) than among the highest (23.8 percent). For a number of conditions, the greatest differences in incidence were between the highest income level and households with incomes between $16,000 and $36,000, with respondents in the latter

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10 Of the sample of 381 surveys, about 10.5 percent (or 40 surveys) were from people living in NYCHA buildings.
group more than three times as likely to report having heart disease and more than twice as likely to have high blood pressure.

Approximately 22 percent of people interviewed reported additional health conditions including: thyroid conditions, back pain, dental and vision concerns, hepatitis C, sleep apnea, cancer, arthritis, generalized pain, and mental health concerns.

**Sandy’s Effect on Homes and Mental Health**

Of all those surveyed, about 66 percent responded affirmatively to having felt stressed, depressed, or anxious because of Hurricane Sandy. Interestingly, these responses were markedly higher in ZIP code 11694, which has the second-highest median income of Rockaways ZIP codes.

### Sandy-related Stress and Other Self-reported Mental Health by ZIP Code

<table>
<thead>
<tr>
<th></th>
<th>11691</th>
<th>11692</th>
<th>11693</th>
<th>11694</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stressed</td>
<td>50 percent</td>
<td>52.4 percent</td>
<td>60 percent</td>
<td>75.6 percent</td>
</tr>
<tr>
<td>Depressed</td>
<td>32.5 percent</td>
<td>31.8 percent</td>
<td>33.3 percent</td>
<td>47.8 percent</td>
</tr>
<tr>
<td>Anxious</td>
<td>40.2 percent</td>
<td>38.1 percent</td>
<td>33.3 percent</td>
<td>61.1 percent</td>
</tr>
</tbody>
</table>

According to our survey, 80 percent of residents in 11694 reported home damage due to the hurricane compared with rates less than 50 percent for other ZIP codes. Investigating further, the three mental health variables were found to have strong relationships with home ownership and housing damage caused by the storm.
Of those who own their homes, 73 percent reported Sandy-related damage and approximately 70 percent said they have felt stressed because of the hurricane. Among renters, 32 percent reported storm-related damage and about 50 percent reported storm-related stress. These differences can be explained by the type of housing that is owned versus rented in the Rockaway Peninsula. ZIP code 11694 is an area of primarily smaller, private homes that were more likely to be flooded at the basement and ground levels during the storm. By contrast, the other ZIP codes include higher concentrations of larger rental apartment buildings and NYCHA housing projects, which are less vulnerable to storm damage. It is also important to note geography: ZIP code 11691 sits on higher ground than the rest of peninsula, further decreasing susceptibility to flooding.

![Housing Damage and Post-Sandy Mental Health](image)

Of those who reported feeling stressed, depressed, or anxious, less than 20 percent said they sought professional help for any of those conditions. Moreover, seeking help for mental health issues after Sandy varied by household income level. Only 10 percent of the highest income bracket (more than $56,000) and 10 percent of the next highest bracket ($36,001 to $56,000) reported having seen a doctor for feeling stressed, depressed, or anxious because of Sandy. By contrast, about 25 percent of the next bracket ($16,001 to $36,000) and about 30 percent of lowest income bracket (less than $16,000) reported having sought medical attention for the same issues.

![Respondents Citing Mental Health Issues Who Have Seen a Doctor by Income](image)
While the links between mental health and material losses from Sandy are important, the data also show that much damage has yet to be repaired. More than a year and a half year after the hurricane, about 49 percent of all survey respondents said their homes currently have at least one storm-related issue; 26 percent say their homes’ foundation or basements have not been fixed yet, and another 12 percent mentioned roof damage. Other issues included flooring, windows or screens, electrical problems, water supply, temperature controls, and mold.

“I’m afraid to fix the basement … just worried there will be more flooding, with climate change.” – Rockaways resident, ZIP Code 11691

Many residents, especially those living in close proximity to the beach, called for a speedy restoration of the boardwalk, the majority of which was washed away by the hurricane and has still not yet been rebuilt. Many said it should be repaired for the benefit of residents’ physical and mental well-being.

Significantly higher percentages of respondents who reported that their employment situation worsened after Sandy said they have felt stressed, depressed, or anxious due to the storm than those whose employment stayed the same or got better.

<table>
<thead>
<tr>
<th>Employment after Sandy</th>
<th>Improved</th>
<th>Stayed the Same</th>
<th>Worsened</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stressed</td>
<td>55.88 percent</td>
<td>52 percent</td>
<td>82.26 percent</td>
</tr>
<tr>
<td>Depressed</td>
<td>29.41 percent</td>
<td>33.33 percent</td>
<td>54.84 percent</td>
</tr>
<tr>
<td>Anxious</td>
<td>32.35 percent</td>
<td>42.5 percent</td>
<td>66.13 percent</td>
</tr>
</tbody>
</table>

Finally, many of those who reported poor health also reported feeling stressed, depressed, or anxious because of Sandy: 61 percent of respondents who considered themselves to be in “poor” health said Sandy made them feel depressed, while only 23 percent of those reporting “excellent” health said the same.

In sum, self-reported mental health conditions were found to have strong correlations with self-reported general health, post-Sandy employment, and housing damage due to Sandy.
ACCESS TO CARE FINDINGS

Healthcare Utilization

The survey examined residents’ current healthcare utilization patterns in terms of where and how frequently they seek medical attention. Nearly 20 percent of those interviewed do not currently have a primary care doctor and were much less likely to have recently visited a healthcare provider than those who cited having a primary care doctor. Only 18 percent had seen any provider in the last month; another 29 percent had seen a provider within the past six months. Compared with respondents who had a primary care doctor, a much larger percentage of those without one, (29 percent) had not seen a healthcare provider in the past year.

Among respondents who currently have a primary care doctor, nearly half saw their doctor within the past month and another 37 percent had within the past six months. Only 7 percent of respondents with a primary care doctor had not seen him or her in the past year. Those in the top income bracket are most likely to have a primary care doctor than those at lower income levels.

The income bracket most likely to seek care from a hospital emergency room was that earning $36,001 to $56,000 a year. Of the respondents who recently went to the emergency room, about 53 percent do not have a primary care doctor. Private clinics were most used by those in the lowest income bracket (less than $16,000 a year) and those with a total household income of $16,001 to $36,000.

A breakdown of the data by ZIP code shows that residents of 11693 and 11694 were most likely to have visited a primary care doctor whereas residents from 11691 and 11692 were most likely to visit hospital emergency rooms and clinics. This suggests that people who live in closer proximity to the one area hospital, St. John’s Episcopal Hospital (11691), and the one federally qualified health center, Joseph P. Addabbo Family Health Center (11692), use their services more frequently than other people in the Rockaways. However, because most respondents did not specify which hospital or clinic they visited, this cannot be determined conclusively. Furthermore, 11691 and 11692 have the lowest median incomes on the peninsula, which possibly indicates that those with lower incomes use these resources more.

Insurance Status

Close to 87 percent of respondents reported having health insurance; 50.5 percent reported having a private policy, and about 40 percent received publicly provided health insurance (Medicare or Medicaid).

The data also showed a strong association between income level and insurance status. Thirty percent of respondents without health insurance are in the lowest income bracket (less than $16,000 in annual household income), a significantly larger proportion than those in the highest income bracket of more than $56,000 (13 percent). The bracket with the second highest rate of people uninsured was $36,000 to $56,000, with 19.1 percent uninsured.
We also asked respondents who did not have health insurance whether they had applied for coverage under the Affordable Care Act (ACA), commonly known as Obamacare. About 24 percent had. Respondents without insurance who had not applied for ACA coverage were asked to provide a reason for not applying; the four most common reasons were lack of knowledge (27 percent), undocumented status and therefore ineligibility (21 percent), currently applying or waiting for approval by another type of insurance (13 percent), and cost or perceived ineligibility (8 percent).

Of respondents who currently lack insurance, 40 percent described their health as “poor” or “fair” (compared with 26.5 percent overall), and only 13 percent as “excellent.” Respondents without insurance also were much less likely to have seen either a primary care doctor or any healthcare provider in the past year when compared with those with insurance. Additionally, a greater percentage of respondents without health insurance (33 percent) reported that their health status has declined since Hurricane Sandy.

The percentage of people with any form of health insurance (87 percent) rose when compared with the 2012 CHS, which found that only 82.4 percent of people were covered. We also found a significant shift away from private insurance toward Medicare and Medicaid. Private insurance is commonly obtained through one’s employer, hence a shift in unemployment rates may have caused a decline in private enrollment. Meanwhile, New York State expanded Medicaid eligibility under the ACA from a household income within 100 percent of poverty to 138 percent, making public health coverage available to more New Yorkers.

### Health Insurance Type of Those with Coverage

<table>
<thead>
<tr>
<th></th>
<th>Private</th>
<th>Medicare/ Medicaid</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHS 2012, Rockaways</td>
<td>61.3 percent</td>
<td>35.3 percent</td>
<td>-</td>
</tr>
<tr>
<td>CHS 2012, NYC Average</td>
<td>54.6 percent</td>
<td>41.9 percent</td>
<td>3.4 percent</td>
</tr>
<tr>
<td>Doctors of the World Survey 2014</td>
<td>50.2 percent</td>
<td>39.6 percent</td>
<td>2.4 percent</td>
</tr>
</tbody>
</table>

Of the three largest ethnic groups in the Rockaways, residents who identified themselves as white were most likely to have health insurance (94 percent), and residents who identified themselves as Hispanic were least likely to be covered (77 percent).

### Barriers to Accessing Care

Access to care is a concern for the Rockaways, where 12.3 percent of survey respondents reported needing medical care at some point in the previous year and not receiving it. At first glance, this seems to be an issue of poverty: 23.4 percent of respondents reporting this issue fall into the lowest income category (earning less than $16,000). Interestingly, however, this is followed closely by the second highest income category; those earning from $36,000 to $56,000 represent 21.3 percent of the group who did not receive needed care.
Among all respondents who reported not receiving care when needed, only 32 percent are uninsured. Sixty-eight percent of those who did not receive needed medical attention in the past year have health insurance, which clearly points to larger structural deficiencies as opposed to a simple case of the poor being underserved.

The top three cited barriers to accessing medical care were long wait time (26 percent), inconvenient hours (22 percent), and expensive services (22 percent). Overall, respondents who identified themselves as Hispanic or Latino reported facing higher rates of barriers to accessing care compared with those identifying themselves as white or black. Hispanic respondents most commonly cited long wait times, lack of insurance, and expensive services as obstacles. Additionally, almost 13 percent of Hispanic respondents listed language as a barrier to care, a much larger percentage than any other group.

Of those respondents who earned less than $16,000 annually, the most cited barriers were expensive services (31 percent), long wait times (29 percent), and lack of insurance (25 percent). Respondents from the highest income bracket most commonly cited long wait times (23 percent) and inconvenient hours (24 percent).

More than 20 percent of respondents who reported being in “poor” health cited long wait times, inconvenient hours, expensive services, and a language barrier as primary reasons for not accessing care. On average, those who reported their health as “excellent” named 1.36 reasons for not accessing care, while those with “poor” health listed 2.3 reasons. As expected, respondents without health insurance most often cited lack of insurance and expensive services as the main barriers, with each one representing about 65 percent.

Of the 143 respondents citing one primary barrier to accessing care, the most commonly identified factors were cost (18 percent), lack of insurance (12 percent), long wait times (11 percent), and nowhere to go (10 percent). Of those citing additional barriers, about 46 percent cited lack of facilities and limited services. These responses highlight the many barriers Rockaways residents face when accessing health

“If I need to see a doctor, I don’t go around here. . . . I drive to Brooklyn or Long Island.”
– Rockaways resident, 11692
services, as well as problems with the quality of care in existing facilities.

More than 41 percent of respondents who described themselves as being in “fair” or “poor” health reported needing care in the past year but not getting it. This was a much larger percentage than those with “excellent” or “very good” health; only 8.7 percent of respondents in each of these categories reported not receiving care when needed.

When prompted by survey questions about healthcare needs and barriers to access, several respondents commented on the need for increased emergency or urgent care facilities in the Rockaways, especially after Peninsula Hospital closed in April 2012. Many were upset about this and stressed the fact that St. John’s Episcopal was the only remaining hospital in the Rockaways. General complaints, coming mainly from people who live in ZIP code 11691, about the physical distance traveled to get necessary care and the quality of care available offer glimpses of Rockaway residents’ larger dissatisfaction with their healthcare situation.

**Likely to Use Free Medical Services?**

Some 15.75 percent of survey respondents said they would likely use free medical services from a nearby clinic. The survey instructions originally directed interviewers to ask this question only to the uninsured; however, 33.5 percent of insured respondents voluntarily answered that they were likely to use free medical services. Many respondents also commented that there is a need for more specialized healthcare in the Rockaways.

Respondents who said they would likely use a free medical clinic were then asked what services they would like to have available. Of the 188 specific responses, 24.5 percent said primary care services including general physical exams and immunizations. Others included dental care (22.3 percent) and eye care (7.9 percent).
OTHER FINDINGS

Undocumented Individuals

Questions regarding access to care and lack of “papers” were used as a proxy for immigration status. Several respondents also explicitly disclosed their immigration status. By combining these two methods of counting, we determined that close to 6 percent of those surveyed were undocumented individuals.

These people tended to have lower incomes with 54.5 percent earning between $16,000 and $36,000 per year and another 27.2 percent earning less than $16,000 per year.

The data show undocumented status to be linked to worse employment status and access to healthcare; 36.4 percent of undocumented individuals said their employment situation since Hurricane Sandy had gotten worse. The two main barriers this group faced to accessing care were their undocumented status, followed by a lack of information.

"I am worried that the people who really need medical help in the community won’t answer their doors. . . because they don’t have documents, because they fear their benefits will be taken away." – Rockaways resident, 11694

A Note on Demographic Data

Demographic data from the survey generally aligns with data from the 2010 census, suggesting a representative sample. The Rockaways have more female than male residents according to census data; however, this difference was exaggerated in our results. Possible explanations include participation bias, likelihood of each gender to open the door to their residence, or gendered patterns in employment on Saturdays when the bulk of surveys were completed.

Additionally, the median age of respondents was 47, higher than that reported by 2010 census data. Biases similar to those described above might also apply to respondents’ age. It is important to note that for the categories of gender and age, we did not ask respondents about the composition of their households and restricted respondents to people over the age of 18. Therefore we do not expect the demographics of our respondent pool to be perfectly representative of the Rockaways population overall.

11 Also see charts on p. 8. One noticeable difference is the “other” grouping, which accounted for 0.3 percent in the census and 10 percent in the Doctors of the World survey. One possible explanation is the way this survey formulated the question, asking “With which racial group or groups do you most identify?” Some respondents may have been reticent to name a specific group, while others felt encouraged to name specific groups that might otherwise be grouped into a more general category (e.g. Columbian instead of Latino).

12 The median age was 36.1 according to ZIP-codes.com.
Comparing Demographic Data

<table>
<thead>
<tr>
<th>Percent of Households by ZIP Code</th>
<th>2012 Census</th>
<th>Doctors of the World Survey</th>
</tr>
</thead>
<tbody>
<tr>
<td>11691</td>
<td>51 percent</td>
<td>51 percent</td>
</tr>
<tr>
<td>11692</td>
<td>16 percent</td>
<td>17 percent</td>
</tr>
<tr>
<td>11693</td>
<td>11 percent</td>
<td>8 percent</td>
</tr>
<tr>
<td>11694</td>
<td>22 percent</td>
<td>24 percent</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Percent of Population by Gender</th>
<th>2012 Census</th>
<th>Doctors of the World Survey</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>47 percent</td>
<td>37 percent</td>
</tr>
<tr>
<td>Female</td>
<td>53 percent</td>
<td>59 percent</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Percent of Population by Race</th>
<th>2012 Census</th>
<th>Doctors of the World Survey</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>38 percent</td>
<td>33 percent</td>
</tr>
<tr>
<td>Black</td>
<td>40 percent</td>
<td>43 percent</td>
</tr>
<tr>
<td>Hispanic</td>
<td>19 percent</td>
<td>23 percent</td>
</tr>
<tr>
<td>Asian</td>
<td>3 percent</td>
<td>2 percent</td>
</tr>
</tbody>
</table>

The employment data from the survey show that 53.5 percent of respondents currently have a paid job, 25 percent are currently not working, and 20 percent are retired. Of those currently employed, 75 percent are working full time with the remaining working part time. These results also align well with the 2010 Census, which found that 57 percent of Rockaways residents were in the labor force with an overall unemployment rate of 11 percent.

The survey asked respondents whether their annual gross household income in 2013 fell into one of four categories based on the Queens median income of $56,780. Some 31.8 percent reported income equal to or greater than $56,000, which leaves 68.2 percent of Rockaways residents with incomes below the Queens median, including 17.9 percent with an income in the lowest bracket of less than $16,000 annually.

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14 Respondents were allowed to select more than one category, according to the racial groups they identified with, which is why the percentages exceed 100 percent.

15 Due to time constraints on the length of the survey, we wanted to limit the number of questions asked about employment status. Thus we labeled all respondents who are older than 65 and are not currently working but have held a job for pay in the past as “retired.”


17 Some 14.4 percent of respondents earned between $16,000 and $36,000, and 13.7 percent between $36,000 and $56,000.
Additional Anecdotal Observations

It was clear from the personal stories of some respondents that the material damage and losses from Hurricane Sandy are still open wounds for many Rockaway residents. When asked about storm-related stress and anxiety, respondents often offered additional comments on the economic and emotional toll tied to their ongoing troubles.

“In general, people are out of shape . . . the community needs recreation facilities.”
– Rockaways resident, 11692

While implementing the study, some teams observed a notable lack of food options, especially fresh food. The U. S. Department of Agriculture designates urban neighborhoods without ready access to fresh, healthy, and affordable food as “food deserts” if they meet certain low-income and low-access thresholds. One census tract\(^\text{18}\) included in our sample, in ZIP code 11692, currently qualifies for that designation.\(^\text{19}\) According to the department, this environment may contribute to a poor diet that can lead to higher levels of obesity and other diet-related diseases such as diabetes and heart disease.

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\(^{18}\) Tract code 36-081-0972.02

CONCLUSIONS

The Challenge of Geography

The Rockaways’ geographic isolation seems to lie at the heart of many of the challenges it faces. Traveling to other parts of the city easily takes one to two hours on public transport, which in regards to health results in diminished access. Those living in similarly underserved communities throughout the five boroughs can often take a short subway ride to an adjoining neighborhood to find the care they need. While not ideal, this does provide some respite.

Rockaway residents are effectively cut off. The peninsula’s isolation also works in the opposite direction, deterring non-residents from commuting in, resulting in increased barriers to investment. Hospitals, clinics and private healthcare offices in the aforementioned underserved communities can similarly recruit client pools from adjacent areas of the city. Because the commute into the Rockaways is so challenging, few people come in other than beachgoers in the summer. The only clients for anyone considering opening a facility in the Rockaways are local residents. As we have seen, the residents generally lack financial resources, which poses challenges to providers looking to establish a business. This could be a major contributing factor to the Rockaways’ federal designation as both a medically underserved area and a health professional shortage area.20

Health and Wealth

The survey’s results reveal a clear link between lower incomes and poor health outcomes. Respondents in the lowest income bracket have increased rates of chronic disease and the lowest access to care as measured by several factors. As has been seen in many cases throughout history, the poor are again being left behind.

While all of the Rockaways’ subpopulations suffer from the challenges of geography, the poor suffer more as they are less likely to own a car and hence have less mobility. Furthermore, this limitation means that the poor are more vulnerable to extreme weather events such as Hurricane Sandy when evacuation may be necessary and/or local resources of all varieties become temporarily or permanently unavailable.

There is a pronounced burden amongst the Rockaways’ undocumented residents. Fear of detection often leads undocumented people to not access what care is available. Anecdotal reports from community members and local service providers repeatedly point to this concern and its detrimental effect on residents’ health. Because preventive measures are not sought due to fear of detection, conditions often go untreated until the point of severity, which in turn can lead to avoidable hospitalizations. This subpopulation’s low average income means that the challenges they face are often compounded with those discussed above.

Lastly, undocumented adult residents do not qualify for any health insurance program (unless pregnant). So they will continue to be vulnerable, especially when faced with health needs that are costly to treat. Community education on rights and available resources could be a valuable recourse for some undocumented individuals.

The Insurance Gap

While the health and social challenges faced by lower income groups are well documented, our research highlighted the vulnerability of the group earning $36,000 to $56,000 annually, showing several troubling patterns regarding access to care. This is the second most likely bracket to be uninsured with 19.1 percent lacking coverage, suggesting the so-called “insurance gap” whereby individuals earn too much money to qualify for state benefits but not enough to afford the costs associated with private insurance.

This same income bracket also showed the highest rates of people using emergency rooms. The increased usage may be due to a higher propensity to seek emergency care when needed than other groups, or a higher vulnerability to emergency situations based on profession. A higher rate of using the emergency room for primary care—a common pattern among the uninsured—is another potential explanation for this data.

Additionally, emergency needs could be elevated because of inadequate primary or preventive care; this income bracket had the highest rate of reporting an unfulfilled need for medical attention in the previous year (19.2 percent). This lack of care may be tied to a case of “underinsurance” whereby the benefits available to this group are too limited and/or carry associated fees too high for them to attain adequate care. Closely linked to this issue of underinsurance is the high interest that insured respondents expressed in a free clinic, again pointing toward unaffordability of care even for those with coverage.

Further Study

To better understand the challenges faced by different subpopulations of the Rockaways, future research should measure residents’ income as a percentage of poverty thresholds. By surveying household income and ages of all household members, future researchers may easily compute this factor and re-examine issues of access in light of the cost of care. Income as a percent of poverty is used to calculate Medicaid eligibility, insurance premiums through the state’s health insurance marketplace, and sliding scale fees at federally qualified health centers such as the Joseph P. Addabbo Family Health Center.

Further examination of the healthcare challenges facing middle-class people is also necessary. While our research does not provide a clear picture of why this group uses the emergency room so much—lack of needed care or insurance—the survey outcomes show that the current healthcare system is disproportionately failing to provide for their healthcare needs. Understanding the factors contributing to this insufficient level of care will be vital to improving healthcare delivery.

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21 Income as a percentage of poverty thresholds varies by household size and age. Rates can be viewed on the U.S. Census Bureau’s Web site, https://www.census.gov/hhes/www/poverty/data/threshld/
Future household surveys would benefit from further dividing the higher income strata of the Rockaways. In an effort to focus on the perceived most vulnerable populations, we grouped all those earning a pre-tax household income over the median income for Queens into one bracket. A comprehensive view of the challenges faced by Rockaways residents will eventually require subdividing this higher income range into smaller subgroups.

Last, there is a need for an in-depth study of the health needs of the undocumented residents of the Rockaways. Our survey’s question regarding papers certainly captured some residents who are in fact documented residents but had access difficulties due to other paperwork. Conversely, it is a fair assumption that not all undocumented people disclosed their status through this question. Undocumented residents constitute a highly vulnerable population with few options for healthcare; they often live in society’s shadows, not seeking care when needed for fear of detection and not obtaining what benefits are available because getting that information is difficult for them. Understanding how to best overcome these and other barriers this community faces requires a more thorough investigation of their particular needs and concerns.

Next Steps

As noted above, several areas exist that need additional study. Meanwhile, the residents of the Rockaways continue to struggle with high disease burden and high barriers to accessing care. The need for intervention is immediate and pressing, which is what motivated Doctors of the World USA to establish a free clinic there to serve uninsured and undocumented individuals. Unfortunately this clinic alone cannot meet the myriad healthcare needs of the Rockaways. More resources should be deployed to address the outstanding needs of the peninsula’s various subpopulations.

Much effort has been put into the reconstruction of the Rockaways. However, many families’ homes still need repairs. Drawn-out processes related to flood plain mapping and its repercussions on homeowners’ insurance have had a pronounced effect on the speed with which repairs can proceed. While in-depth analysis of reconstruction is beyond the scope of this report, it is clear that slow repairs to the peninsula have had an effect on health outcomes. If government or large private institutions are to be successful in long-term recovery efforts, they need to recognize the interconnectedness of health and other rebuilding efforts. Recovery needs to be approached from a balanced, holistic perspective.

Many of the challenges faced by the Rockaways are rooted in its geography, not only the area’s vulnerability to storm surges, but also its isolation from other communities. This is a factor that cannot easily be overcome and requires large scale, innovative solutions. To spur both investment and local resource development, public and private sector actors will need to look for creative approaches to encourage growth. Impact investing, tax incentives, and micro-enterprise schemes are a few of the many approaches that deserve investigation. These can target the development of more healthcare access points and also nurture broader development to bring employment opportunities, enhance food access, and build a more vibrant community, all of which contribute to healthy livelihoods.
In conducting this research Doctors of the World had three aims. The primary one was to improve the clinic’s operations. By collecting and analyzing current, statistically significant data, we can help ensure that the services being delivered are appropriate for the Rockaways. Secondly, we intended this data to be used by like-minded institutions and local leaders—professional, elected, and informal—to advance the Rockaways’ long-term recovery. It is our sincere hope that those involved in the process will make use of the data contained here to advance advocacy for the region or to build their case for support whether through political action, applying for grants, or as a complement to further research or reports.

Lastly, Doctors of the World subscribes firmly to the primacy of self-determination. The knowledge base developed through this work and the power it engenders belongs to the people of the Rockaways. A well-developed sense of self is a valuable tool, and we have faith that a more comprehensive understanding of the healthcare situation will contribute to improved self-worth and determination within the Rockaway community.
REFERENCES


———. “ZIP Code 11697.”  
APPENDIX A: METHODOLOGY

The research question guiding this study asks: What are the health concerns and barriers to healthcare access of Rockaway residents after Hurricane Sandy?

The study used a simple random sample strategy to complete a sufficient number of surveys to make the resulting data generalizable for the Rockaways at large in a statistically significant manner. Based on a peninsula-wide count of approximately 41,500 households,\textsuperscript{22} this required a sample size of 381 completed surveys to achieve a 5 percent margin of error and a confidence level of 95 percent.

Despite sharing the 11693 ZIP code with parts of the Rockaway Peninsula, Broad Channel, the only inhabited island in Jamaica Bay was excluded for logistical reasons. Similarly Breezy Point, a gated community at the western end of the peninsula, and the small adjoining neighborhood of Roxbury, which together constitute ZIP code 11697, were also excluded from the survey.

Other groups excluded from the sample were residents of most group quarters, such as assisted living facilities, nursing homes, and halfway houses for a variety of reasons. Aside from logistical challenges of accessing these facilities, obtaining informed consent from some residents can be ethically complicated, and the nature of the housing arrangement can skew random sampling. By conducting a household survey, the homeless population was automatically excluded from the sample. It should be noted that the final result of our survey is not reflective of these particular subpopulations, both of which commonly have elevated levels of healthcare needs.

Survey Protocol

At every residence where someone answered the door, the surveyor would introduce themselves as volunteers for Columbia University and Doctors of the World USA and explain the purpose of the survey, clearly stating that this was for research and advocacy purposes only and no direct services would be offered as an outcome. The surveyor then asked the respondent if they were at their primary address and if s/he is over the age of 18. If the respondent met the preconditions and consented to take the survey, the surveyor would explain the confidentiality clause and the respondent’s right to skip questions and stop the survey at any time. Although surveyors recorded each address where they completed a survey, the data remains anonymous because we have not associated any information with specific addresses in our analysis. Furthermore, we did not ask or record any respondents’ names and instructed surveyors to conduct the survey at the door instead of entering homes.

All community members contacted were given information about the services offered by Doctors of the World and a list of other community resources, regardless of whether they completed a survey.

Implementation

Surveys were principally administered on three days: March 8, March 29, and April 12 (a small number of additional surveys were completed on other days). In addition to the 3 Doctors of the World staff members and 7 members of the capstone team, a total of 72 volunteers were deployed in pairs to cover a total of 550 households, divided into approximately 46 mapped clusters of 7 to 23 addresses each.

Volunteers were recruited with the help of community organizations inside and outside of the Rockaway Peninsula, including: the Rockaway Youth Task Force, the Visiting Nurse Service of New York, New York Cares, World Cares Center, Rockaway Waterfront Alliance, the office of U.S. Rep. Gregory W. Meeks, the 100th Precinct Community Counsel, YANA, and Rockaway United. Outreach from these community organizations was coupled with social media, print advertisements, flyers, and word of mouth leading up to survey dates.

Response Rate and Volunteers

There were immediate challenges in obtaining the required number of completed surveys. The central problem was response rate, which was about 30 percent over the three principle survey dates. The most significant cause of the low response rate was people failing to answer the door. This was a combination of residents not being home, which raises a potential flaw in the times or dates the survey was conducted; and people appearing to be home but not opening the door. The latter could in part be a consequence of survey fatigue, given the numerous surveys that have been conducted in the Rockaways after Sandy, often with the promise of services that did not materialize.

Recruiting volunteers from outside of the Rockaways posed a challenge in part because of the distance from other parts of New York City and the poor weather conditions on the first two survey dates.

The Saturday survey dates also resulted in our inability to reach the Orthodox Jewish community, as many members of this community observe the Sabbath. This was mitigated by having surveys administered on weekdays by Doctors of the World volunteers in the address clusters known to be home to Orthodox Jewish communities.
INTerviewer Script
Hi my name is ________________, and this is ________________, we are volunteers with Columbia University in collaboration with Doctors of the World. Doctors of the World is a non-profit that just opened a free clinic on Beach Street. We are helping to gather information about the health of Rockaways residents. Would you mind taking 10-15 minutes to answer this survey? All answers will be confidential

- Yes [Great, thank you. I will interview you and _____ will record your answers]
- No [Continue to Primary Residence section]

PRIMARY RESIDENCE
First, is this your primary residence? (PROBE: By primary residence, I mean the place where you sleep at four or more nights per week)

- Yes [Go to age]
- No [Is anyone else home who calls this his or her primary residence?]

- Yes [Begin script again]
- No [Thank you very much for your time. We are only interviewing primary residents, here is information regarding Doctors of the World and other community based resources. Have a great day.]

Age
Are you over 18 years of age?

- Yes [Go to Consent and Confidentiality section]
- No [Is anyone else home who is over the age of 18?]

- Yes [Begin script again]
- No [Thank you very much for your time. We are only interviewing people over the age of 18, here is information regarding Doctors of the World and other community based resources. Have a great day.]

Consent and Confidentiality
Great. Before we start let me tell you a little bit more about the interview process, since most people have not been in a survey like this before. In some cases, I will be asking you to answer questions in your own words. For other questions, you will be given a set of answers, and you will be asked to give the answer that is closest to your own view. Any information collected by this survey will be confidential, and will not be linked to any address or other personal information that can identify you. You do not have to answer any questions you do not want to, and you can end the interview at any time. Is this alright with you?

You Sign Here if Respondent Consents to the Survey
X ________________________________
BEGIN SURVEY

The next few questions are about your health and access to health care.

1. How many people, including yourself, currently live in your household? (PROBE: By living with you in your household, I mean someone who sleeps at this address four or more nights per week)

   Don’t Know .................98
   No Response ...............99

2. Would you say that in general your health is…

   Excellent ...................1
   Very good ..................2
   Good ........................3
   Fair, or ....................4
   Poor? ........................5
   Don’t Know .................8
   No Response ...............9

3. Since Hurricane Sandy in 2012 has your health…

   Gotten Better .............................................1
   Stayed about the same, or ................................2
   Gotten worse? ..........................................3
   Don’t Know ............................................8
   No Response .................................9

4. I am going to read you a list of common health issues. As I read each one, please tell me if you believe you have this health issue. Do you have… (PROBE: Anything else?)

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
<th>Don’t Know</th>
<th>No Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asthma</td>
<td>1</td>
<td>2</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Allergies</td>
<td>1</td>
<td>2</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Diabetes</td>
<td>1</td>
<td>2</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Heart Disease</td>
<td>1</td>
<td>2</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>High Blood Pressure</td>
<td>1</td>
<td>2</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>High Cholesterol</td>
<td>1</td>
<td>2</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Joint Pain</td>
<td>1</td>
<td>2</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Weight Issues, or</td>
<td>1</td>
<td>2</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Anything else?</td>
<td>1</td>
<td>2</td>
<td>8</td>
<td>9</td>
</tr>
</tbody>
</table>

(SPECIFY:_______________________________________)
(SPECIFY:______________________________________________)

IF ONE OR MORE ‘YES’, ASK A

a. Have you seen a doctor for any of these conditions?

   Yes .................................................1
   No .................................................2
5. Now I am going to read a list of issues some people have dealt with because of Hurricane Sandy. Has Hurricane Sandy made you feel…

<table>
<thead>
<tr>
<th>Condition</th>
<th>Yes</th>
<th>No</th>
<th>Don’t Know</th>
<th>No Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stressed</td>
<td>1</td>
<td>2</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Depressed, or</td>
<td>1</td>
<td>2</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Anxious?</td>
<td>1</td>
<td>2</td>
<td>8</td>
<td>9</td>
</tr>
</tbody>
</table>

**IF ONE OR MORE ‘YES,’ ASK A**

a. Have you seen a doctor for any of these conditions?

<table>
<thead>
<tr>
<th>Condition</th>
<th>Yes</th>
<th>No</th>
<th>Don’t Know</th>
<th>No Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stressed</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depressed, or</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anxious?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6. At this moment, do you have a primary care doctor? *(PROBE: A primary care doctor is a medical professional and somebody you usually go to for check ups or if you are sick)*

<table>
<thead>
<tr>
<th>Condition</th>
<th>Yes</th>
<th>No</th>
<th>Don’t Know</th>
<th>No Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary care doctor</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. When did you last see your primary care doctor? Did you see them…

<table>
<thead>
<tr>
<th>Time</th>
<th>Yes</th>
<th>No</th>
<th>Don’t Know</th>
<th>No Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>In the last month</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In the last 6 months</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In the last year</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Over a year ago</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

b. When was the last time you saw a health care provider? Did you see them… *(PROBE: A health care provider is a medical professional, therapist or specialist who provides you with health care services)*

<table>
<thead>
<tr>
<th>Time</th>
<th>Yes</th>
<th>No</th>
<th>Don’t Know</th>
<th>No Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>In the last month</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In the last 6 months</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In the last year</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Over a year ago</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
7. The last time you sought medical attention, where did you go?

<table>
<thead>
<tr>
<th>Service</th>
<th>Mentioned</th>
<th>Not Mentioned</th>
<th>Not Applicable</th>
<th>Don’t Know</th>
<th>No Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary care doctor</td>
<td>1</td>
<td>2</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>A specialist</td>
<td>1</td>
<td>2</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>(SPECIFY:__________________________)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A therapist</td>
<td>1</td>
<td>2</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>A hospital emergency room</td>
<td>1</td>
<td>2</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>A hospital outpatient clinic</td>
<td>1</td>
<td>2</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>A private clinic</td>
<td>1</td>
<td>2</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>A community health clinic</td>
<td>1</td>
<td>2</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>An alternative health care provider</td>
<td>1</td>
<td>2</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>2</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>(SPECIFY:__________________________)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8. Do you currently have health insurance?

- Yes………………(ASK A and B) …………1
- No………………(ASK C) …………………2
- Don’t Know ……………………………8
- No Response …………………………9

a. What type of health insurance do you currently have? Do you have…

- Private insurance ………..(ASK B) ……………………………1
- Medicare or Medicaid, or……(ASK B) …………………………2
- Another form of insurance?……(ASK B) …………………………3
  (SPECIFY:________________________)
- Not Applicable …………………………7
- Don’t Know ……………………………8
- No Response …………………………9

b. Has there been a time in the past year when you did not have health insurance?

- Yes  ………………… 1
- No  ………………… 2
- Not Applicable ……… 7
- Don’t Know ………………… 8
- No Response ………………… 9

GO TO Q 9

c. Have you applied for insurance under the Affordable Care Act, or Obamacare?

- Yes………. (GO TO Q9) ……………………………1
- No………. (ASK D) ……………………………2
- Not Applicable ……… 7
- Don’t Know ………………… 8
- No Response ………………… 9

d. What is the main reason you have not applied for insurance under the Affordable Care Act, or Obamacare?
9. Was there a time in the past 12 months when you needed medical care but did not get it?

   Yes ........................................ 1
   No ........................................... 2
   Don’t Know ............................... 8
   No Response ............................ 9

10. I am going to read a list of commonly reported reasons why people cannot access medical care. Please say yes if the statement applies to you. Has it ever been hard to access medical care because...

<table>
<thead>
<tr>
<th>Reason</th>
<th>Yes</th>
<th>No</th>
<th>Don’t Know</th>
<th>No Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>There was nowhere to go</td>
<td>1</td>
<td>2</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>You did not know where to go</td>
<td>1</td>
<td>2</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>The waiting time was too long</td>
<td>1</td>
<td>2</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>The hours of operations were inconvenient</td>
<td>1</td>
<td>2</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>You did not have health insurance</td>
<td>1</td>
<td>2</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>The services were too expensive</td>
<td>1</td>
<td>2</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>There was a language barrier</td>
<td>1</td>
<td>2</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>You did not have a way to get there</td>
<td>1</td>
<td>2</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>You had a previous bad experience</td>
<td>1</td>
<td>2</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>You did not trust the provider</td>
<td>1</td>
<td>2</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>You were afraid they would ask you for papers you did not have, or</td>
<td>1</td>
<td>2</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Any other reason?</td>
<td>1</td>
<td>2</td>
<td>8</td>
<td>9</td>
</tr>
</tbody>
</table>

(SPECIFY________________________________________________________)

IF ONE OR MORE 'YES', ASK A

a. If you could choose one main reason why it has been hard to access care, which of those would it be? (PROBE: You told me it was hard to access medical care (state above reasons))

INTERVIEWER

BOX 1
DO TWO OR MORE PEOPLE LIVE IN THE HOME? (SEE Q1)

   Yes.....(GO TO Q11)............................................. 1
   No.....(GO TO Q15)............................................. 2
11. Was there a time in the past 12 months when someone in your household other than yourself needed medical care but did not get it?

Yes .................................. 1
No .................................. 2
Not Applicable ....................... 7
Don’t Know .............................. 8
No Response ............................. 9

We also want to understand more about the health care access of children living in the Rockaways. The next few questions are about children.

12. How many children under the age of 18 live in your household?

Not Applicable ....................... 97
Don’t Know .............................. 98
No Response ............................. 99

IF NO KIDS GO TO Q15

13. Are you responsible for the care of any of the children under 18 years of age in your household?

Yes .......................... (ASK A) ................................. 1
No .............................. .......................... (GO TO Q15) ................................. 2
Not Applicable ....................... 7
Don’t Know .............................. 8
No Response ............................. 9

a. At this moment, (does/do) your (child/children) have a primary care doctor?

Yes .......................... (ASK B) ................................. 1
No .............................. .......................... (GO TO Q14) ................................. 2
Not Applicable ....................... 7
Don’t Know .............................. 8
No Response ............................. 9

b. When did your (child/children) last see (his/her/their) primary care doctor? Did they see them…

In the last month ................................. 1
In the last 6 months ................................. 2
In the last year, or ................................. 3
Over a year ago? ................................. 4
Not Applicable ................................. 7
Don’t Know .............................. 8
No Response ............................. 9
14. (Does/do) your (child/children) have insurance?

Yes.................(ASK A and B)................................. 1
No..................(GO TO Q15)................................. 2
Not Applicable.................................................. 7
Don’t Know ................................................... 8
No Response ................................................... 9

a. What type of health insurance (does/do) your (child/children) currently have? (Does/do) your (child/children) have…

Private insurance ........................................... 1
Child Health Plus, CHIP, Child Medicaid, or........ 2
Another form of insurance?.................................... 3
(SPECIFY: _____________________________)
Not Applicable.................................................. 7
Don’t Know ................................................... 8
No Response ................................................... 9

ASK B

b. Has there been a time in the last 12 months when your (child/children) did not have insurance?

Yes...................... 1
No ....................... 2
Not Applicable..... 7
Don’t Know........... 8
No Response ........... 9

One of the things we are trying to learn is the effect of Hurricane Sandy on people’s homes and lives. The next few questions are about housing.

15. Do you…

Own, or ...................... 1
Rent your home?............ 2
Don’t Know ............... 8
Know Response .......... 9

16. I am going to read a list of common housing issues that people have reported. Please say yes if any of these issues currently apply to you. Does your home have…

<table>
<thead>
<tr>
<th>Issue</th>
<th>Yes</th>
<th>No</th>
<th>Don’t Know</th>
<th>No Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>A functioning kitchen</td>
<td>1</td>
<td>2</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>A functioning bathroom</td>
<td>1</td>
<td>2</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Roof damage or leaks</td>
<td>1</td>
<td>2</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Rodents</td>
<td>1</td>
<td>2</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Cockroaches, or</td>
<td>1</td>
<td>2</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Any other issues?</td>
<td>1</td>
<td>2</td>
<td>8</td>
<td>9</td>
</tr>
</tbody>
</table>
(SPECIFY: _____________________________)
17. Was your home or apartment damaged by Hurricane Sandy?

Yes ...(ASK A) ........... 1
No ....(GO TO Q18) ... 2
Don’t Know ............... 8
No Response............. 9

a. Has all of the damage to your home or apartment been fixed?

Yes .(GO TO Q18) .. 1
No ....(ASK B) ......... 2
Not Applicable ......... 7
Don’t Know ............. 8
No Response ............ 9

b. What kind of damage has not yet been fixed? (PROBE: You had mentioned problems with your home such as...(see Q16 )

Not Applicable.................................7
Don’t Know.................................8
No Response............................. 9

18. In the past month, have you seen mold on a wall or ceilings of your house? (PROBE: I mean mold in your home excluding the bathroom)

Yes......................... 1
No ......................... 2
Don’t Know............... 8
No Response ............ 9

Thank you so much, we are almost finished. The last few questions are general information.

19. How old are you today?

Don’t Know............... 8
No Response ............ 9
20. With which racial group or groups do you most identify? You can say more than one. Do you identify as…

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
<th>Don’t Know</th>
<th>No Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asian</td>
<td>1</td>
<td>2</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Black or African American</td>
<td>1</td>
<td>2</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Hispanic or Latino</td>
<td>1</td>
<td>2</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>White, or</td>
<td>1</td>
<td>2</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>Belonging to some other group?</td>
<td>1</td>
<td>2</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>(Specify: _____________________)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

21. As of today do you have a job for pay?

Yes.........(Ask A ONLY).......1
No.........(Ask B ONLY).......2
Don’t Know.........................8
No Response.......................9

A. Are you working …

Full time, or ............1
Part time?...............2
Not Applicable...........7
Don’t Know ..............8
No Response.............9

B. Have you ever worked for pay?

Yes..............................................1
No.............................................2
Not Applicable................................7
Don’t Know..................................8
No Response...............................9

22. Since Hurricane Sandy in 2012, has your employment situation…

Gotten Better......................1
Stayed about the same, or ........2
Gotten worse?...................3
Not Applicable..................7
Don’t Know..........................8
No Response.......................9

23. Is your total gross income, income brought in before taxes, for the year 2013 by all members of your household…

More than $56,000........(GO TO BOX 2)..................1
About $56,000 or........(GO TO BOX 2)..................2
Less than $56,000?........(ASK A)......................3
Don’t Know......................................8
No Response.................................9
A. Is it $36,000 or more?
   Yes……………………(GO TO BOX 2)................................. 1
   No……………………(ASK B)........................................... 2
   Not Applicable………………………………………………… 7
   Don’t Know…………………………………………………… 8
   No Response………………………………………………….. 9

B. Is it $16,000 or less?
   Yes……………………………………………………………….. 1
   No……………………………………………………………….. 2
   Not Applicable………………………………………………… 7
   Don’t Know…………………………………………………… 8
   No Response………………………………………………….. 9

-----------------------------------------------------------------------------------------------------------------------------

INTERVIEWER

BOX 2

DOES RECIPIENT HAVE HEALTH INSURANCE? (SEE Q8)
   Yes…. (GO TO Q25)............1
   No…. (GO TO Q24).......... 2

-----------------------------------------------------------------------------------------------------------------------------

24. Suppose you could get free medical services from a nearby clinic, how likely would you be to go? Would you be...

   Very likely………………(ASK A)…………………………….. 1
   Somewhat likely………(ASK A)…………………………….. 2
   Somewhat unlikely, or….. (ASK A) …………………….. 3
   Very Unlikely?……… (GO TO Q25)………………………… 4
   Not Applicable……………………………………………… 7
   Don’t Know ………………………………………………… 8
   No Response ………………………………………………… 9

a. What services would you like to be provided from a local health clinic if you needed it?

   Not Applicable …….. 7
   Don’t Know ……….. 8
   No Response ……… 9

-----------------------------------------------------------------------------------------------------------------------------
25. Is there anything else regarding your health care that you would like to tell us?

Don’t Know ................... 8
No Response ................ 9

Great, thank you so much for your time. Here is the contact information for Doctors of the World, as well as a list of community-based resources.

Interviewer Record [Fill out after survey is completed]

Date of interview

MONTH    DAY    YEAR

Volunteer Name

Street Address/Apartment # ________________________________

Zip Code__________________

Respondent Gender

Male
Female
INTERVIEWER NOTES & COMMENTS

Please include in clear handwriting and full sentences important feedback from respondents throughout the survey, for example personal anecdotes and vulnerabilities.
**APPENDIX C: FIGURES**

### Race Distribution

- **Asian:** 0%
- **Black:** 40%
- **Hispanic:** 0%
- **White:** 30%
- **Others:** 10%

### Race Distribution by ZIP Code

- **11691:**
  - Asian: 1%
  - Black: 2%
  - Hispanic: 5%
  - White: 90%

- **11692:**
  - Asian: 1%
  - Black: 2%
  - Hispanic: 5%
  - White: 90%

- **11693:**
  - Asian: 1%
  - Black: 2%
  - Hispanic: 5%
  - White: 90%

- **11694:**
  - Asian: 1%
  - Black: 2%
  - Hispanic: 5%
  - White: 90%

### Employment Status

- **Have job:** 20.21%
- **Don't have job:** 25.20%
- **Retired:** 53.54%

### Type of Employment

- **Full time:** 75.25%
- **Part time:** 24.75%
Mental Health and Perceived General Health Status

Mental Health due to Hurricane Sandy by ZIP Code

Mental Health by Income
Mental Health and Employment status since Sandy

Last Time Primary Doctor Was Seen

Last Time Health Care Provider Was Seen