Health and Justice in a Girl's World: Women's Health Networks in NYC

Geographic Information Systems

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“Communities and countries and ultimately the world are only as strong as the health of their women.”

-Michelle Obama

Introduction

Historically underserved communities defined by demographics including race, (dis)ability, median household income, etc, are disproportionately burdened by environmental injustices. These injustices range from exposure to pesticides, proximity to toxic waste, and other industrial complexes. The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), also known as **Superfund**, is a response to extremely hazardous waste areas to clean up contaminated sites. In the state of New York, this is regulated and administered by the New York State Department of Environmental Conservation (NYSDEC). Despite efforts for remediation, many environmental justice areas still grieve imminent threats of deteriorating public health.

Of the many inordinate populations affected by environmental concerns, one of the most at risk is **women of color**. Women of color face already exceptional health risks, especially in regards to their reproductive health under a medical system that treats their pregnancy concerns as frivolous and incompetent. Their placement in environmental justice areas, alongside income levels, access to insurance, education, and so many other adjacent factors make access to healthcare resources that much more difficult.

This project aims to not only look at the variance of environmental justice areas and availability of resources but will be intentional in targeting areas with the highest concentrations of vulnerable populations, acknowledging the unique needs of these **frontline communities.**

Photo by Karolina Grabowska from Pexels

Research Q's

community districts

What areas of NYC are best suited for new women's health resources?

high need = vulnerable

NYC women's resources network database

within network buffer

Do women of color living near Superfund sites experience disparity in access to health-care facilities?

less access in WOC population "coldspots"

data

Base Maps/Boundaries:

New York State. “NYS Civil Boundaries”. [shapefile]. Updated October 2021.https://gis.ny.gov/gisdata/inventories/details.cfm?DSID=927

New York City Department of City Planning. “New York City Borough Boundaries” [shapefile]. Bytes of the Big Apple, Issue 16D. 27 October 2016. http://www1.nyc.gov/site/planning/data-maps/open-data/districts-downloadmetadata

Department of City Planning. 2010 TIGER/Line Shapefiles “Census Tracts, New York State” [shapefile]. Bytes of the Big Apple. 20 June 2014. updated 22 November 2021.

New York City Department of City Planning. 2017. LION v17A. [ESRI File Geodatabase]. https://www1.nyc.gov/site/planning/data-maps/open-data/dwn-lion.page.

Environmental Justice:

New York State Department of Environmental Conservation. “2021 DEC Remediation Site Boundaries” [dataset]. https://www.dec.ny.gov/chemical/102009.html

U.S. Environmental Protection Agency. “FAC - Superfund Site Boundaries” [shapefile]. 27 March 2021. https://catalog.data.gov/dataset/fac-superfund-site-boundaries-epa

Health Data:

Department of Health and Mental Hygiene. “NYC Women’s Resource Network Database” [dataset]. 7 November 2018. https://data.cityofnewyork.us/Social-Services/NYC-Women-s-Resource-Network-Database/pqg4-dm6b

Department of Health and Mental Hygiene. “Pregnancy-Associated Mortality” [dataset] 13 July 2021. https://data.cityofnewyork.us/Health/Pregnancy-Associated-Mortality/27x4-cbi6

Demographic Data

United States Census Bureau. “S0501- SELECTED CHARACTERISTICS OF THE NATIVE AND FOREIGN-BORN POPULATIONS 2019”. [dataset]. American Community Survey. 2019. https://data.census.gov/cedsci/table?q=acs%20new%20yorl&tid=ACSST1Y2019.S0501

Statement of Intent

As first year graduate students in an introductory Geographic Information Systems course, we acknowledge the potential for both geoprocessing error and alternative methods that might have been overlooked. Our intention is to provide the most comprehensive review of the intersection of Superfund sites and women’s health sites in relation to populations of women of color in New York City. It is our hope that this report can be used for conversations of advocacy and policy supporting the construction of future women’s health centers and resources.

We affirm that this report is an honest, accurate, and transparent account of our research, data manipulation, mapping and analysis of the study being reported. No important aspects of the study have been omitted, and all discrepancies of the study (if relevant) have been explained.

Scope

In our study, we will be looking at **New York City**, the home of over 4 million women, of which at least half are women of color. In looking at the correlation between environmental burdens, in this case proximity to hazardous waste Superfund sites in New York City, we can pinpoint a few locations within the five boroughs of New York City that are in need of **additional women’s health facilities.**

We will be utilizing the most current American Community Survey data from 2019 but will also be looking at data as far back as 2015.

Definitions

For the purpose of this report, we will be referring to the World Health Organization's definition of **equity** as a starting point. It is important to recognize that in the case of health, "**inequities involve more than lack of equal access to needed resources to maintain or improve health outcomes**" (GWU Public Health). We should also acknowledge the different forms of equity that exist within institutions like public health that continue to marginalize historically ignored: distributional, procedural, and structural equity.

Distributional equity: ensuring the resources or benefits and burdens of a policy or program are distributed fairly, prioritizing those with the highest needs first

Procedural equity: ensuring that processes are fair and inclusive in the development and implementation of any program or policy

Structural equity: a commitment and action to correct past harms and prevent future negative consequences by institualizating accountability and decision-making structures that aim to sustain positive outcomes

 Photo by RF._.studio from Pexels

Source: GWU Public Heath & World Health Organization

Locate Women's Health Centers in NYC

- Download & prepare data, confirm coordinate systems
- NYC Women's Resource Network Database [points]
- Spatial join NYC Women's Resource Network points to NTA boundaries
- Examine resulting attribute table, produce map and analyze findings

Identify High-Need Populations in NYC

- Download & prepare data, confirm coordinate systems
- ACS 2019 5-year Estimates [table] → Black, American Indian, Asian, Pacific Islander, Hispanic, Other Races, and Two or More races
- Table join People of Color (POC) table to Census Tracts
- Determine where POC features are clustered using Getis-Ord-I* (hotspot analysis) with Zone of Indifference conceptualization to identify hot & cold spots
- Repeat Getis-Ord-I statistics for Black, American Indian, Asian, Pacific Islander, Hispanic, Other Races, and Two or More races feature classes
- Determine women's health resource distribution by spatial joining NYC Women's Resource points to hot & cold spots
- Examine resulting attribute tables, produce maps, and analyze findings

Determine WOC Populations Living within a__ Buffer of Superfund Site

- Download & prepare data, confirm coordinate systems
- 2021 NYC DPC Revitalization Site Boundaries [points]
- Spatial join NYC DPC Revitalization Site Boundaries points to NTA boundaries
- Examine resulting attribute table, produce map, and analyze findings
- Active Superfund Sites [shapefile] → Select & export Superfund sites in NYC (3 sites) → Calculate centroid for NYC's active Superfund sites (3 centroids)
- NYC LION dataset → Isolate pedestrian accessible streets & export → Create network dataset
- Create four ring service area layers at 1,320 ft intervals
- Add 3 centroids (Superfund sites) to service area analysis & generate service area polygons (repeat three times)

Determine Proximity Between Women's Health Centers and Superfund Site Buffer

- Intersect hot & cold spots demographic cluster data and service area polygons
- Intersect women's health resource points to service area polygons
- Create new data frame for each Superfund service area (3 data frames)
- Examine resulting network buffers, produce maps and analyze findings

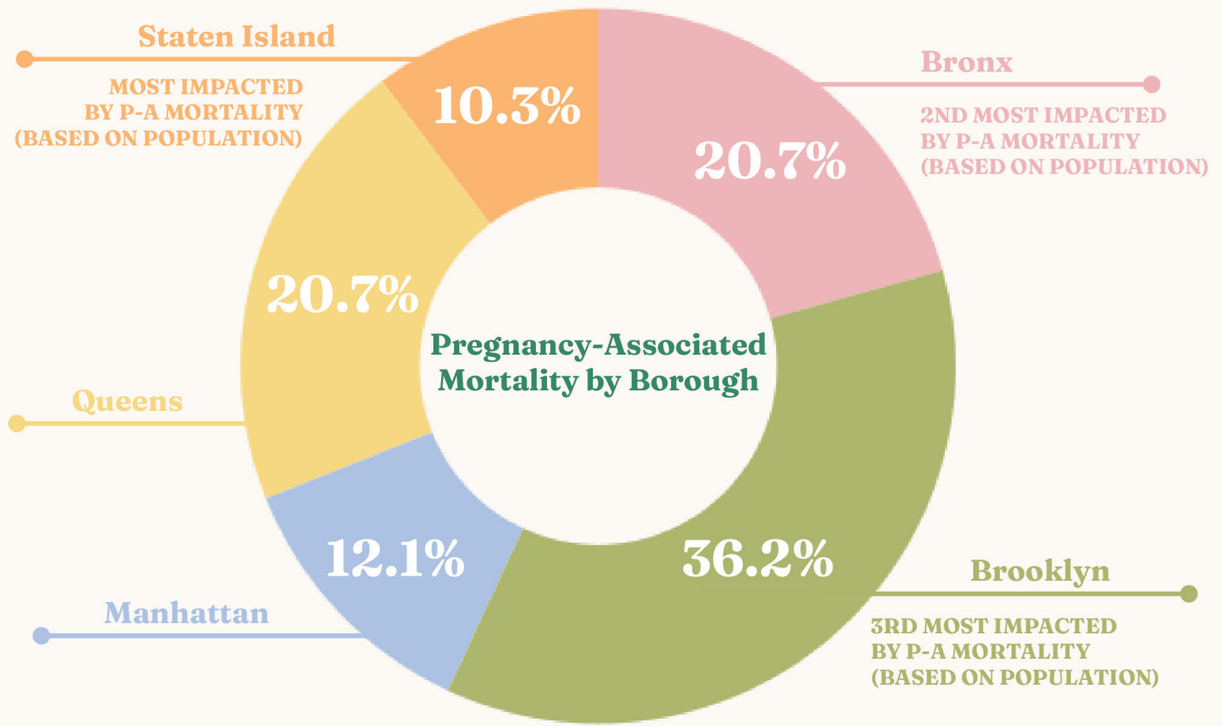
Determine Community District with Immediate Need of New Women's Health Center

- Compare service area buffers using "hottest" and "coldest" concentrations of high-need populations
- Analyze health-related demographics of "hottest" concentration of high-need populations & conclude findings

Why Women's Health?

Women are integral parts of our society, and the bodies of women are capable of so much, including producing future generations. Historically, women have had to fight to be heard in every aspect of life but especially in terms of health. **Bias in medicine** is further intensified for women of color, whose health concerns receive less effective care and is complicated by differential access amongst other barriers. **In New York City, people of color make up more than half of the demographic makeup especially in Queens, the Bronx, and Brooklyn.**

In addition to heart disease and cancers, other prominent causes of death for women of color are cerebrovascular diseases, diabetes, and unintentional injuries. Black and Latina mothers are much more likely to die from pregnancy-related causes than are mothers of other racial/ ethnic groups (see chart below). However, the health concerns of these women are often seen as frivolous in a society where health has always been compared to that of white males.



Source: Department of Health and Mental Hygiene, 2020.

 Source: Photo by RF._.studio from Pexels

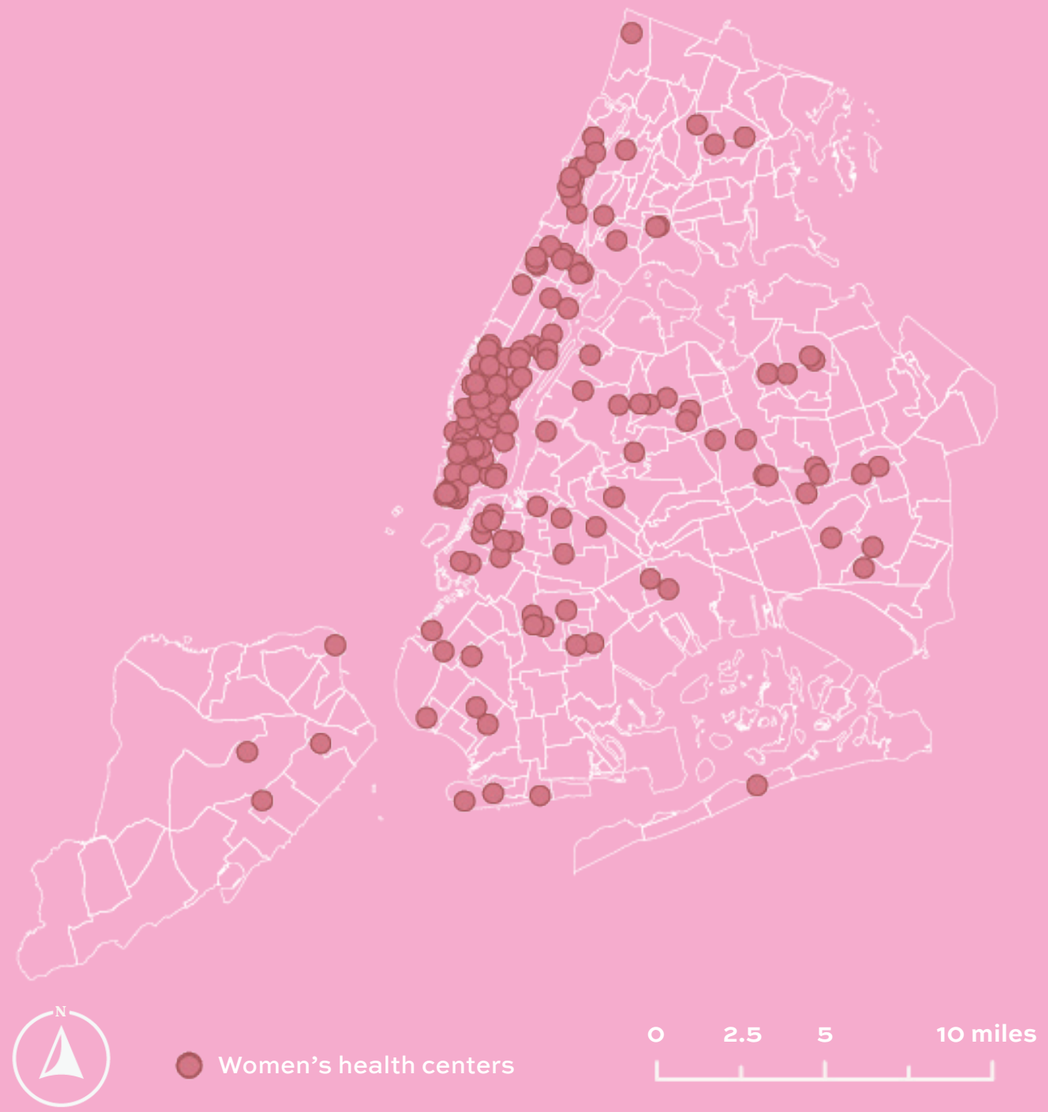
There are 302 women's health centers in NYC.

What is a women's health center?

Women's health care centers address a variety of issues. In addition to a general health care center, they specifically focus on gynecology, birth control, and sexually transmitted diseases. Accessing these resources is important so that women can get the specific attention they need and address health concerns efficiently so they aren't magnified.

In the **NYC Women's Resource Network Database**, many women's resources are included such as those classified under businesses, education, community service and volunteering, child care and parent information, disabilities, domestic violence amongst many more. For our research, we narrowed this down to health. This database includes clinics, hospitals, community associations, and other services that serve women's health needs. The majority of these sites are located in Manhattan- though this is not the borough with the highest residential population.

Women's Health Centers in New York City, 2021



Source: Department of City Planning, 2015, Department of Health and Mental Hygiene, 2020.

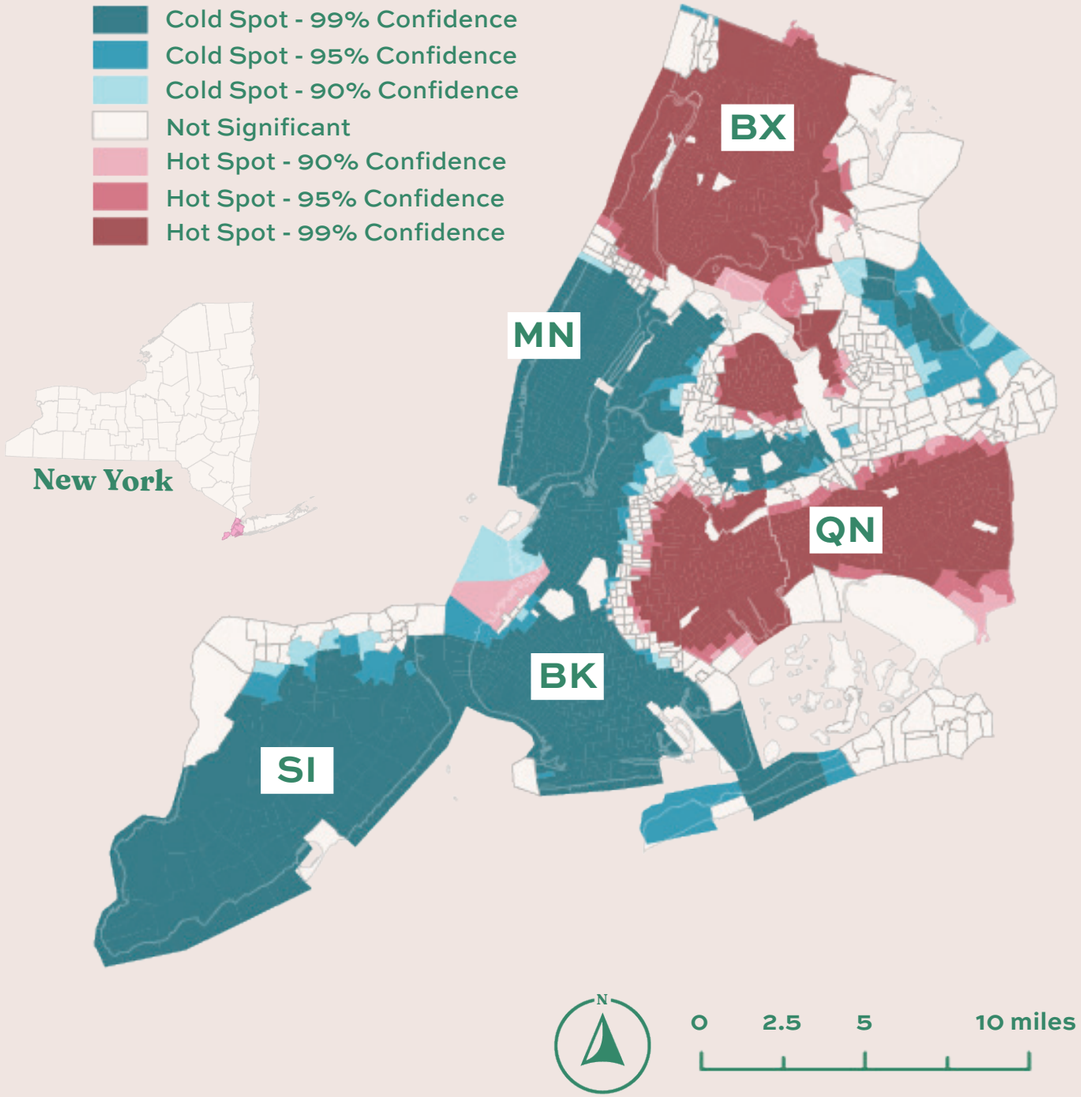
Determining High-Need

The **Getis-Ord Gi*** statistic tests whether individual features are included within significant clusters of high or low values. This is also known as a **“hotspot test”.** It is important to note that it doesn’t single out areas of significance, and to qualify as a statistically significant hotspot, a location has to be surrounded by other areas of high value. The statistics of these features in the dataset would be characterized by a high z-score (hotspot), low z-score (cold spot) and those that are non-significant.

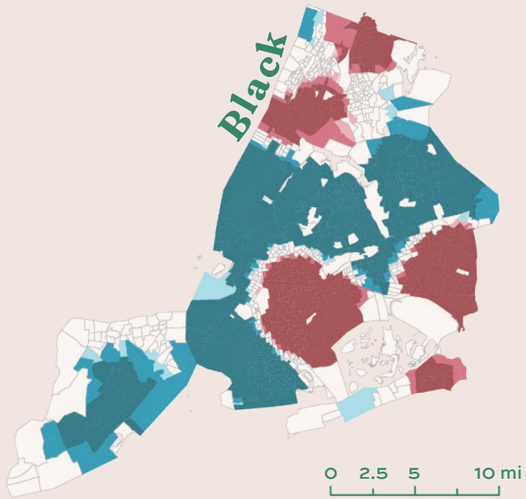
We used this statistical test to look at **hotspots of people of color in New York City.** Our test revealed hotspots of communities of color in Upper Manhattan (Harlem), the Bronx, and parts of Queens and Brooklyn, so these present as target locations for new health centers.

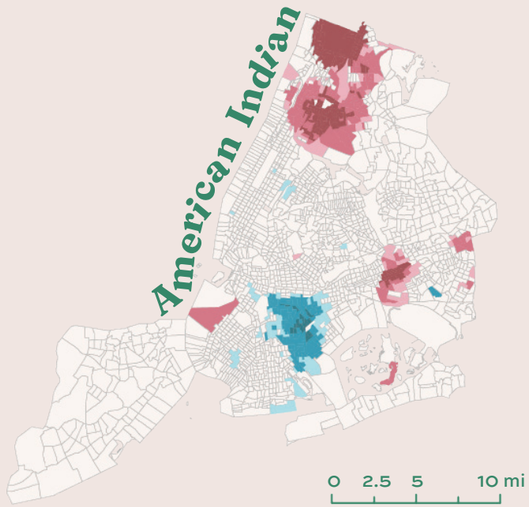
Though our test specifically looks at women, the distribution of men and women are about the same. Thus for our analysis, we only had to account for significantly high numbers of people of color because that would in effect also mean significantly high numbers of women of color within the five boroughs.

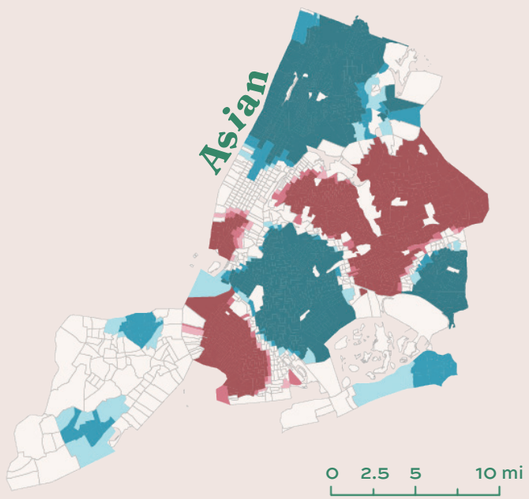
Hotspot Analysis of High Need Populations (Women of Color) in New York City, 2019

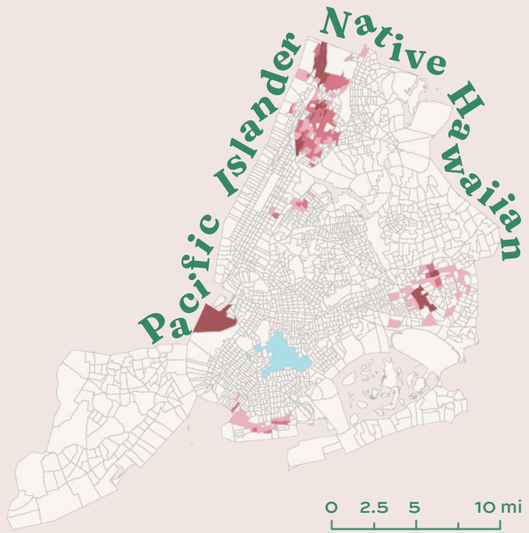


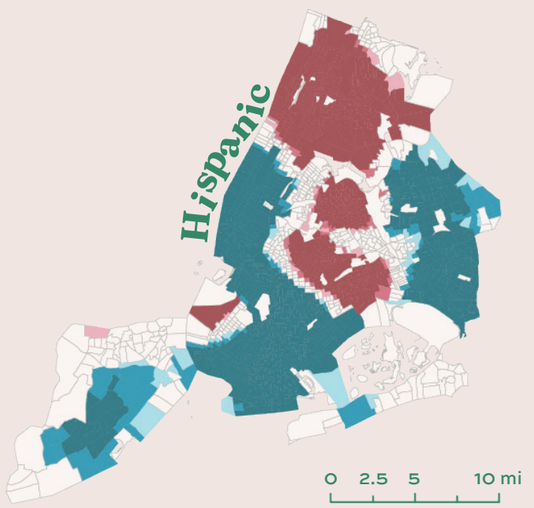
Source: Department of City Planning, 2015, U.S. Census Bureau - American Community Survey, 2019.

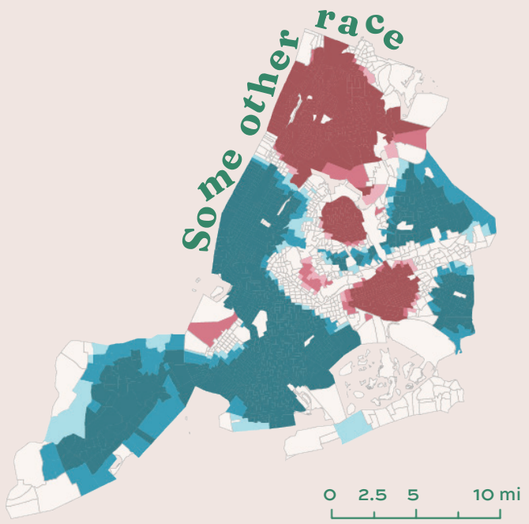


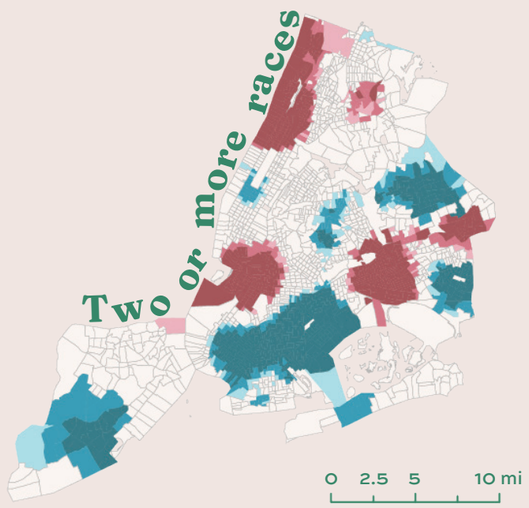












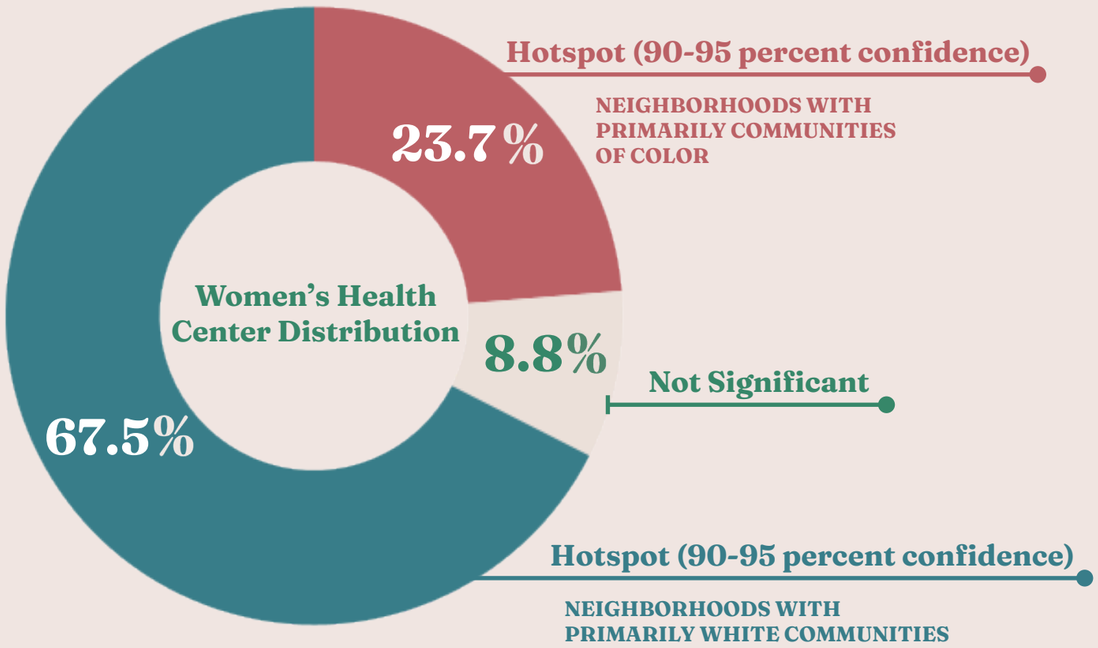
- Cold Spot - 99% Confidence
- Cold Spot - 95% Confidence
- Cold Spot - 90% Confidence
- Not Significant
- Hot Spot - 90% Confidence
- Hot Spot - 95% Confidence
- Hot Spot - 99% Confidence

Individual Demographics

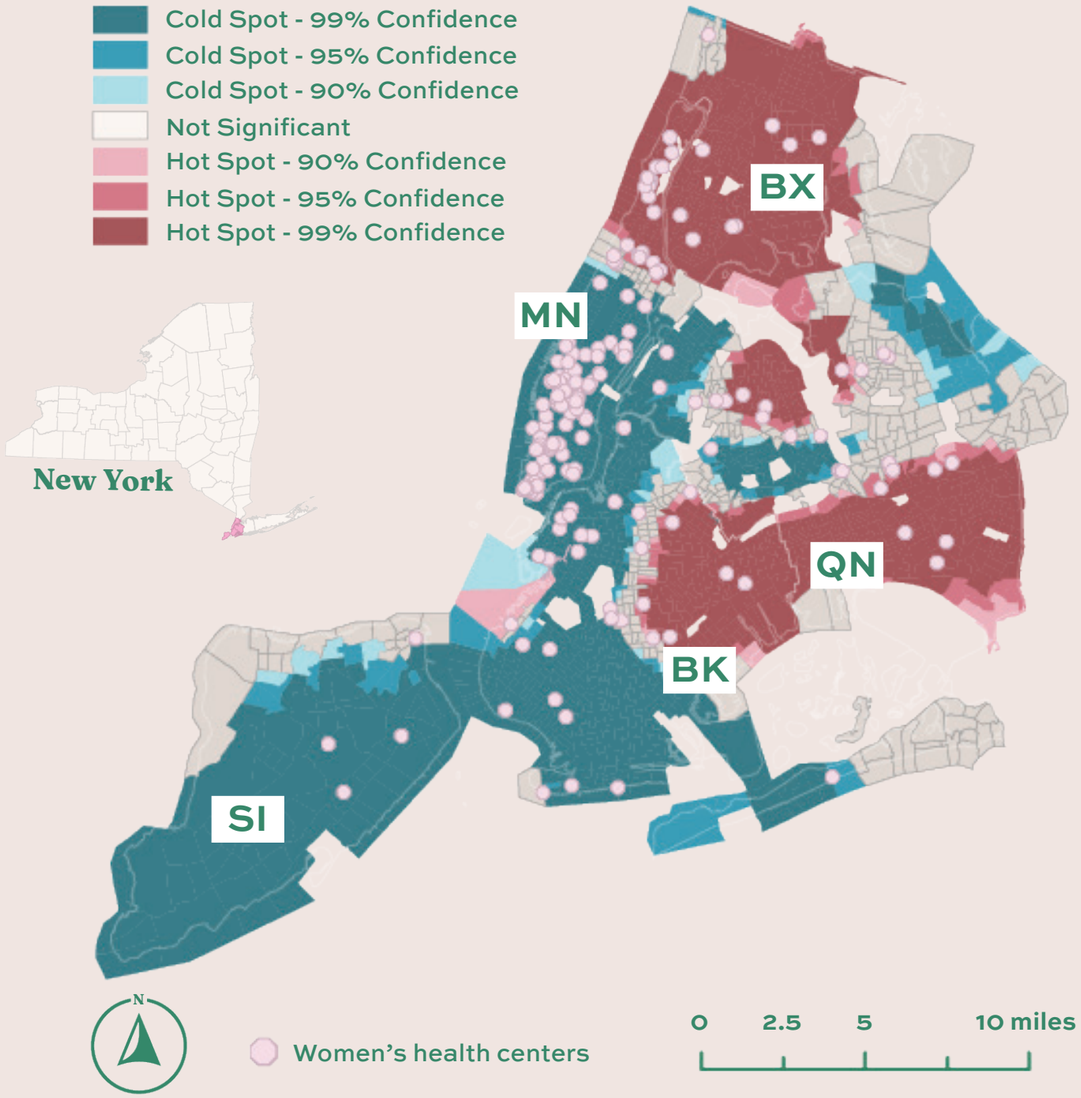
When looking at the individual racial demographics within New York City's five boroughs, Black, Hispanic, American Indian, Pacific Islander/Native Hawaiian, two or more races, and some other race all generally had hot and cold spots in the same areas as defined earlier (the Bronx, parts of Brooklyn and Queens, and Harlem in the northern most Manhattan). The Asian population, however, varied greatly from the rest of these demographics, almost completely trading off hot and cold spots.

Source: Department of City Planning, 2015, U.S. Census Bureau - American Community Survey, 2019.

65.5% of NYC's health centers are in primarily white neighborhoods.

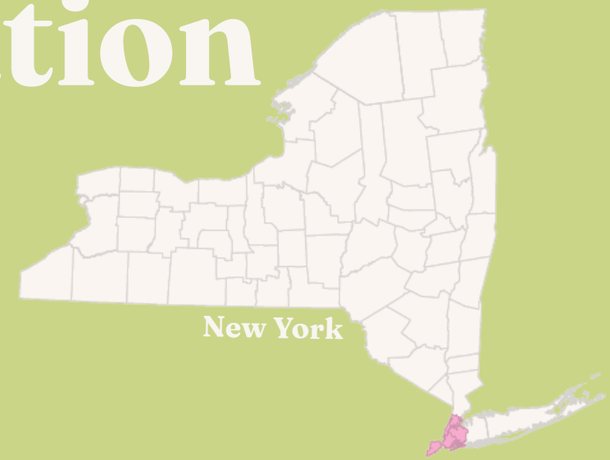


Hotspot Analysis of High Need Populations (Women of Color) in New York City, 2019



Source: Department of City Planning, 2015, U.S. Census Bureau - American Community Survey, 2019, Department of Health and Mental Hygiene, 2020

There are 30,120 remediation sites in NYC.



What is a remediation site?

The New York State Department of Environmental Conservation (DEC) provided us with the Remediation Site Boundaries dataset which includes maps site borders for **environmental remediation sites** managed by the DEC. This includes the State Superfund, Environmental Restoration, Brownfield Cleanup and Voluntary Cleanup Programs. These sites are characterized by varying levels of contamination, including presence of toxic chemicals, hazardous waste disposal, and/or groundwater contamination amongst other variables. The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) is informally known as Superfund aims to fix existing environmental problems, more specifically cleaning up contaminated sites. Superfund was the first federal emergency cleanup response statute. Congress passed Superfund to hold polluters accountable for their actions, making the responsible parties of contaminated sites liable for costs of cleanup.

Remediation Sites in New York City, 2021

Source: Department of City Planning, 2015, New York State Department of Environmental Conservation, 2020.

There are 3 active Superfund sites in NYC.

What is a Superfund site?

Currently, there are **three active Superfund sites** in New York State: Gowanus Canal in Brooklyn, Newtown Creek in Brooklyn, and Wolff-Alport Chemical Company in Queens- all of which are also on the national priority list. Active sites are those in which site assessment, removal, remedial, enforcement, cost recovery, or oversight activities are being planned or conducted under the Superfund program. The areas surrounding Superfund sites are of utmost importance in terms of resource availability because proximity to toxic waste has proven to be linked to health disparities. According to the Center for Health, Environment, and Justice, research has shown higher levels of cancer, birth defects, developmental disabilities, and other serious health issues in communities near Superfund sites. They also report that “pregnant women that live near Superfund sites are more susceptible to miscarriages, various illnesses, and birthing a child with congenital birth defects.”

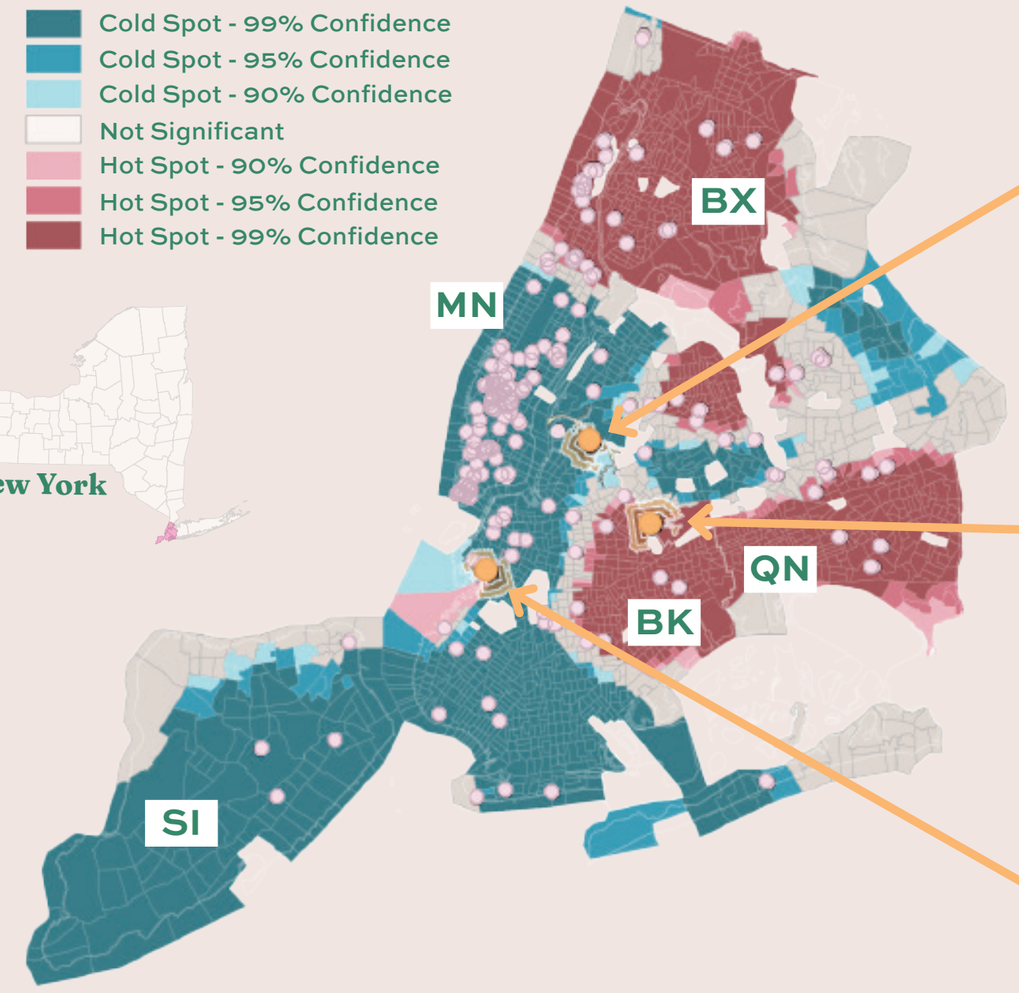
To define near, we looked at **quarter mile intervals** in our network analysis, which measures spatial relationships. We chose to look at quarter mile intervals because those that live within proximal distances are of higher risk for adverse health effects, especially within a few blocks radius.

Network Analysis of Active Superfund Sites in New York City, 2021

Source: Department of City Planning, 2015, New York State Department of Environmental Conservation, 2020 and **U.S. Environmental Protection Agency, 2021.**

Network Analysis of Active Superfund Sites in New York City, 2019

Cold Spot - 99% Confidence
Cold Spot - 95% Confidence
Cold Spot - 90% Confidence
Not Significant
Hot Spot - 90% Confidence
Hot Spot - 95% Confidence
Hot Spot - 99% Confidence

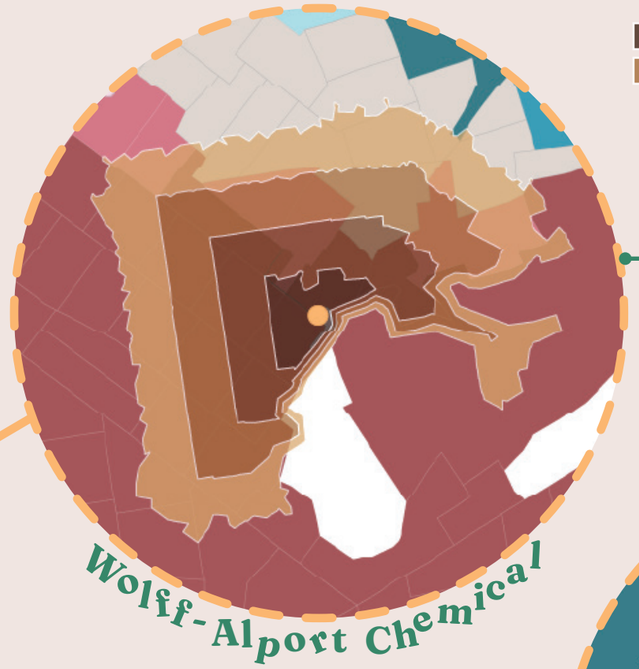


N

Active Superfund sites
Women's health centers

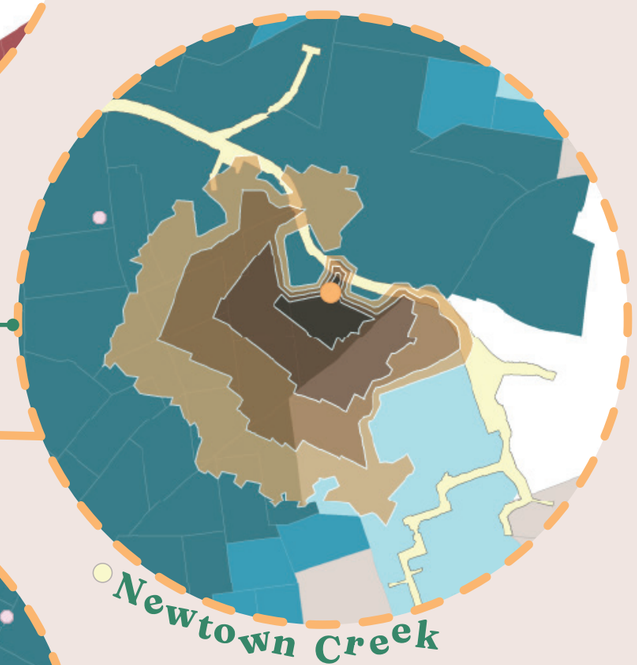
0 2.5 5 10 miles

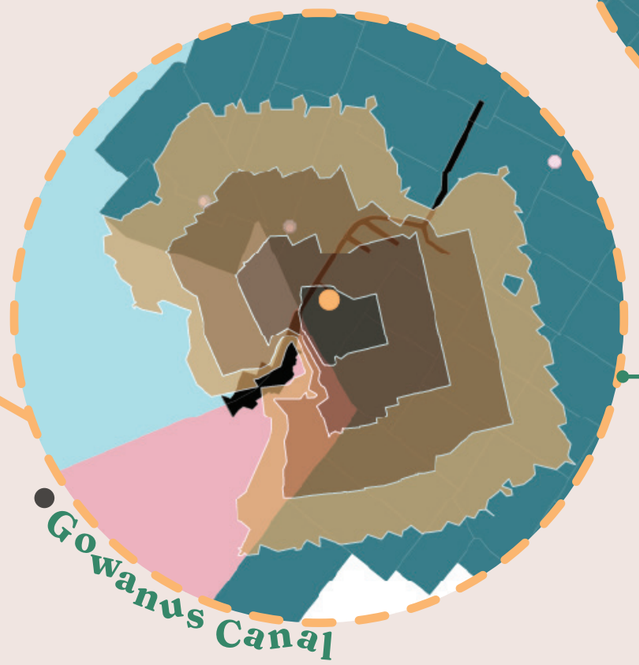
0 - 1,320ft
2,640 - 3,960ft
2,640 - 3,960ft
3,960 - 5,280ft



The **Wolff-Alport Chemical Company** is located in Ridgewood, Queens. It's characterized by high racial diversity, and mixed land use for residential and commercial use. However, unlike the Gowanus Canal or Newtown Creek, there has been little advocacy or controversy around this site.

Newtown Creek is situated at the Queens Brooklyn border and is noted as one of the most polluted waterways in the nation. This area is a majority white race, more recently gentrified, industrial and residential zone.





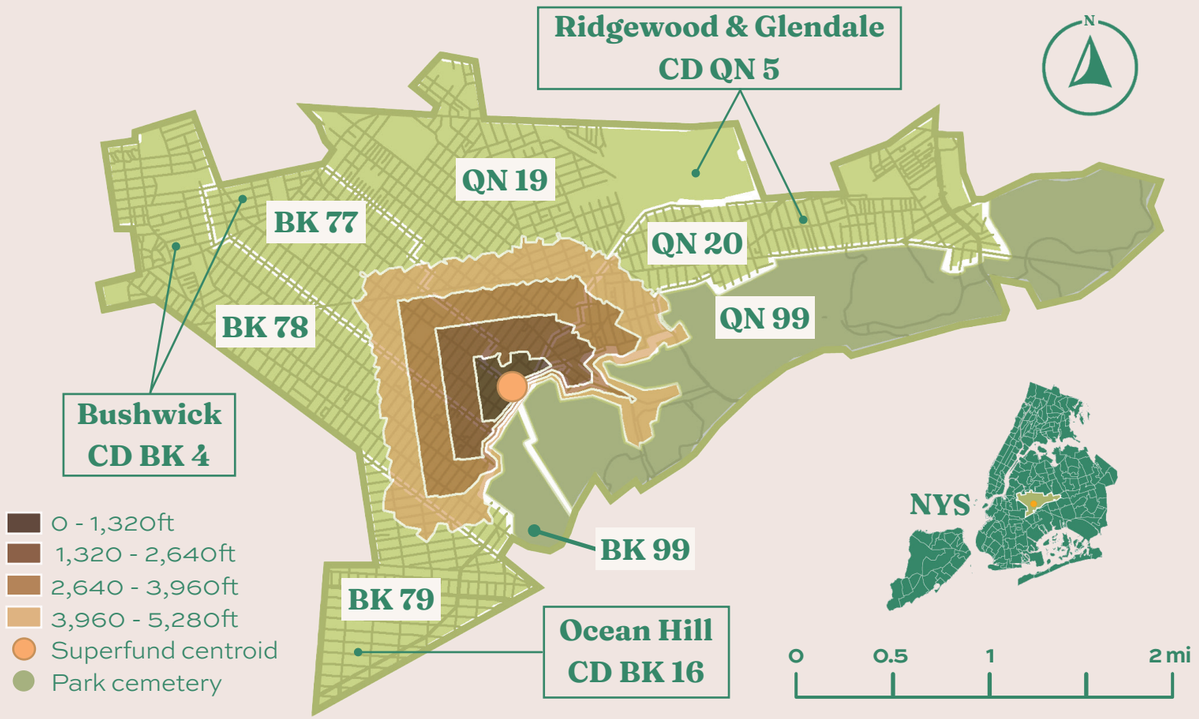
The Gowanus Canal is a 100-foot wide, 1.8-mile long canal in Brooklyn. The Canal empties into New York Harbor. The activity of the adjacent waterfront is primarily commercial and industrial. It's not a predominantly residential area and is also not characterized by high diversity.

N

0 0.175 0.35 0.7 mi

Source: Department of City Planning, 2015, U.S. Census Bureau - American Community Survey, 2019; Department of Health and Mental Hygiene, 2020

Wolff-Alport: Impact Zone Analysis, 2019



	New York City	Ridgewood & Glendale	Bushwick	Ocean Hill
POPULATION BY RACE AND ETHNICITY	ASIAN 15%, BLACK 22%, HISP 29%, WHITE 32%, OTHER 2%	ASIAN 9%, BLACK 1%, HISP 36%, WHITE 52%, OTHER 1%	ASIAN 5%, BLACK 20%, HISP 65%, WHITE 9%, OTHER 1%	ASIAN 1%, BLACK 76%, HISP 20%, WHITE 1%, OTHER 2%
HAVE LIMITED ENGLISH PROFICIENCY	23%	23%	35%	10%
ADULTS W/O HEALTH INSURANCE	12%	13%	18%	12%
LATE OR NO PRENATAL CARE	6.7%	7.6%	9.3%	13.3%

Source: Department of City Planning, 2015, U.S. Census Bureau - American Community Survey, 2019; Department of Health and Mental Hygiene, 2020, Take Care NYC, 2020

A Note to City Officials & Women's Health Advocates in QN5, BK4, BK16

Our report has revealed that residents of your community districts, specifically women of color, are facing a disproportionate restriction in access to women's health centers due to the lack of health centers within their neighborhoods. With an active Superfund site in close proximity (0-6,000ft) to at least 25% of your populations, this should be acknowledged immediately. Additional outside forces including lack of health insurance, job security and the historical mistrust of healthcare professionals in BIPOC communities already prevent women from receiving the medical support they need to live healthy and long lives, so an increase women's health resources is necessary to begin to bridge the gap, addressing both short term issues and working towards long-term health care system reform.

Photo by Brandon Nickerson from Pexels

conclusion

Women of color in New York City reside in community networks without and/or with few women's health centers.

Women of color who reside in upper Manhattan (Harlem), th Bronx, northern Queens, southern Queens, nothern Brooklyn, and southern Brooklyn specifically face a greater risk. This presents a distributional and generational equity problem.

Women of color living in Ridgewood, Glendale, Bushwick, and Ocean Hill face health risks due to their proximity to an active Superfund site and lack of women's health centers.

This health risk is faced by all women but especially Black and Hispanic women who make up 20-76% of this communty's female-identifying population.

Implications & Recommendations

Revise Demographic Fields: ACS S0601 demographic data provides several feature classes that are relevant to quantifying communities of color. For the purposes of this report, we used seven race/ethnicity categories: "Black or African American", "Hispanic/Latino", "American Indian" and "Alaska Native", "Native Hawaiian and Other Pacific Islanders", "Asian", "Some Other Race", and "Two or More Races". A deeper study could involve additional features like "Language Spoken At Home", "Individuals Income" or "Poverty Status" to understand how the intersections of these identities inform access to health care. For example, introducing a feature class that represents 'race' and 'income could reveal that low-income women of color have less access to health care than middle class women of color.

Incorporate Land Use: Our report uses ACS s0601 demographic data joined to census tracts to represent where women of color live, but our study did not explore whether or not the census tracts contain primarily residential land uses. Further study on this topic could include incorporating zoning data to understand the type infrastructure and open space that is adjacent to and within the spatial networks of active Superfund sites.

Expand spatial network analysis: Reproducing additional spatial networks around remediation sites could provide a more detailed study of future at-risk environmental justice areas (where active Superfund sites continue to be the most at-risk environments). Mapping additional networks would increase the accuracy of environmental justice planning reports and policy as multiple phases will be necessary to address this issue for current and future communities.

sources

Sources

Brender, J.D., Maantay, J.A and Chakraborty, J. (2011 December). Residential Proximity to Environmental Hazards and Adverse Health Outcomes. AM J Public Health. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3222489/

Center for Health, Environment, and Justice. The Negative Impacts of Proximity to a Superfund Site. https://chej.org/superfund-and-health/

GW Public Health. (2020 November 5). Equity vs. Equality: What's the Difference? https://onlinepublichealth.gwu.edu/resources/equity-vs-equality/

National Institutes of Health. Women of Color Health Data Book. https://orwh.od.nih.gov/sites/orwh/files/docs/WoC-Databook-FINAL.pdf

Take Care New York. (2020). Community Health Profiles 2018: Bushwick. https://www1.nyc.gov/assets/doh/downloads/pdf/data/2018chp-bk4.pdf

Take Care New York. (2020). Community Health Profiles 2018: Ridgewood and Masbeth. https://www1.nyc.gov/assets/doh/downloads/pdf/data/2018chp-qn5.pdf

Take Care New York. (2020). Community Health Profiles 2018: Ocean Hill https://www1.nyc.gov/assets/doh/downloads/pdf/data/2018chp-qn16.pdf

United States Environmental Protection Agency. What is Superfund? https://www.epa.gov/superfund/what-superfund

Images

Grabowska, K. (2021) Woman holding a poster [Photograph]. Pexels. https://www.pexels.com/photo/women-holding-a-poster-8107458/

Nickerson, B. (2017) Brown buildings [Photograph]. Pexels. https://www.pexels.com/photo/brown-buildings-410237/

RF Studio. (2020) Woman looking serious against white background [Photograph]. Pexels. https://www.pexels.com/photo/women-looking-serious-against-white-background-3812019/

RF Studio. (2020) Photo of women sitting on an orange sofa [Photograph]. Pexels. https://www.pexels.com/photo/photo-of-women-sitting-on-orange-sofa-3810832/

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- Download & prepare data, confirm coordinate systems
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- *Run Make XY Event Layer tool to make points from latitude and longtiude of health centers, creating points*
- *Export layer*
- Spatial join NYC Women's Resource Network points to census tracts
- Examine resulting attribute table, produce map "Women's Health Center in the New York City, 2021", and analyze findings

Identify High-Need Populations in NYC

- Download & prepare data, confirm coordinate systems
- ACS 2019 5-year Estimates [table]
- Black, American Indian, Asian, Pacific Islander, Hispanic, Other Races, and Two or More races [People of Color (POC) table]
- Spatial join People of Color (POC) table to census tracts boundaries
- Determine where POC features are clustered using Getis-Ord-I* (hotspot analysis)
- *Run Getis-Ord-I* (hotspot analysis) where conceptualization of spatial relationships = zone of indiffererence and distance method = euclidean*
- *Export layer*
- Repeat Getis-Ord-I statistics for Black, American Indian, Asian, Pacific Islander, Hispanic, Other Races, and Two or More races feature classes
- *Export layer (x7)*
- Determine women's health resource distribution by spatial joining NYC Women's Resource points to hot & cold spots
- Examine resulting attribute tables, produce maps "Hotspot Analysis of High Need Pop", and analyze findings

Determine WOC Populations Living within a 1/4 Mi Buffers of Superfund Site

- Download & prepare data, confirm coordinate systems
- 2021 NYC DPC Revitalization Site Boundaries [table]
- *Run Make XY Event Layer tool to make points from latitude and longtiude of remediation sites, creating points*
- *Export layer*
- Spatial join NYC DPC Revitalization Site Boundaries points to census tracts
- Examine resulting attribute table, produce map "Remediation Sites in NYC, 2021", and analyze findings
- Active Superfund Sites [shapefile]
- *Run New Feature Dataset in ArcCatalog*
- *Run Feature Class to Feature Class on Superfund sites*
- *Export layer & return to ArcMap*
- Active Superfund Sites [shapefile]
- Select & export Superfund sites in NYC (3 sites)
- Calculate centroid for NYC's active Superfund sites (3 centroids)
- NYC LION dataset [shapefile]
- Isolate pedestrian accessible streets & export
- Create network dataset from the polyline dataset
- *Run Make Service Area layer*
- Create four ring service area layers at 1,320 ft intervals
- *Run Add Locations tool with imput locations = service area and search criteria = NYC Women's Resource Network shape*
- Add 3 centroids (Superfund sites) to service area analysis & generate service area polygons (repeat 3x)
- Examine resulting attribute table, produce map "Superfund Sites in NYC, 2021", and analyze findings

Determine Proximity Between Women's Health Centers and Superfund Site Buffer

- Intersect hot & cold spots demographic cluster data and service area polygons
- Intersect women's health resource points to service area polygons
- Create new data frame for each Superfund service area (3 data frames)
- Examine resulting network buffers, produce maps "Network Analysis of Active", and analyze findings

Determine Community District with Immediate Need of New Women's Health Center

- Compare service area buffers using "hottest" and "coldest" concentrations of high-need populations
- Isolate tracts within Service Area poloygon using the Clip tool
- Analyze health-related demographics of "hottest" concentration of high-need populations & conclude findings
- Produce map "Wolff-Alport: Impact Zone Analyze", and analyze findings

appendix

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Our color palette is coded green for the environment which we work to serve, protect, and preserve and pink for the girlies, baddies, and hotties that we want to keep healthy for generations to come. Our deepest appreciation is to the gorls!

"This one's for the girls." - Martina McBride

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