

The intersection of COVID-19 and chronic disease in New York City: underscores the immediate need to strengthen primary care systems to avoid deepening health disparities

The COVID-19 pandemic is having an unprecedented impact on health and economic systems worldwide. The virus has exposed inequities present in the United States (US) health system and is worsening health disparities across the nation. Early epidemiology of COVID-19 spread has found specific populations are more vulnerable to COVID-19, highlighting the impact of racial and socioeconomic factors on health outcomes. As the most populous and diverse city in the US, New York City (NYC) is the current epicenter of COVID-19. While the COVID-19 spread and response continues to unfold, it is essential to monitor the epidemiology of COVID-19 across the city, identify hardest-hit communities, and develop rapid solutions to halt the epidemic's impact, including worsening health disparities.

The Primary Care Development Corporation (PCDC) examined the geography of COVID-19 cases in New York City as of May 4, 2020 and associations with key sociodemographic factors, chronic disease conditions, and primary care access. We offer a series of short and long term actions necessary to support the health care system and communities who are disproportionately affected by COVID-19, emphasizing the importance of primary care's role in the recovery of New York City.

Key Findings

- COVID-19 case rates are highest in low-income and minority communities in NYC.
- Neighborhoods with high rates of chronic disease have higher rates of COVID-19.
- Primary care access is lower in many areas with high COVID-19 rates.
- Confluence of disease burden, limited access to care, and socioeconomics will widen health inequities without rapid and targeted community-level investment and intervention.

Geography of COVID-19 in NYC

Approximately two months into the COVID-19 pandemic in NYC, many communities have been disproportionately affected by the virus. Neighborhoods within the Bronx, Brooklyn, and Queens have the highest rates of COVID-19. [Figure 1]

The highest COVID-19 rates have been concentrated in low income and minority neighborhoods. These same neighborhoods are disproportionately burdened by chronic diseases such as hypertension and diabetes and have often have worse access to primary care.

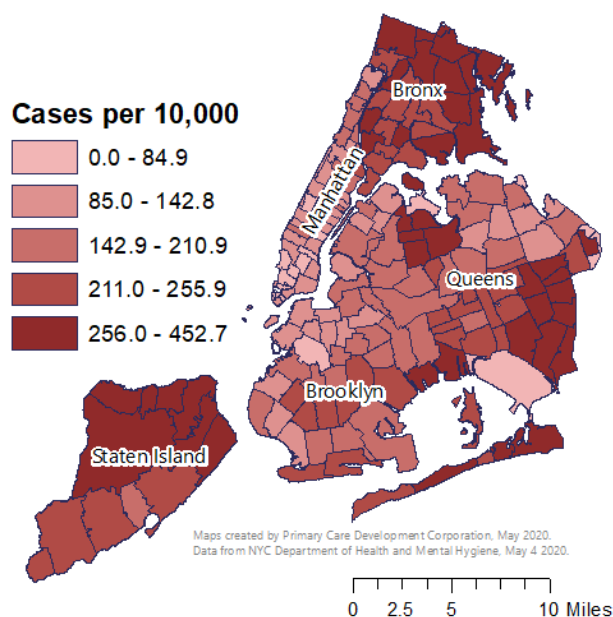


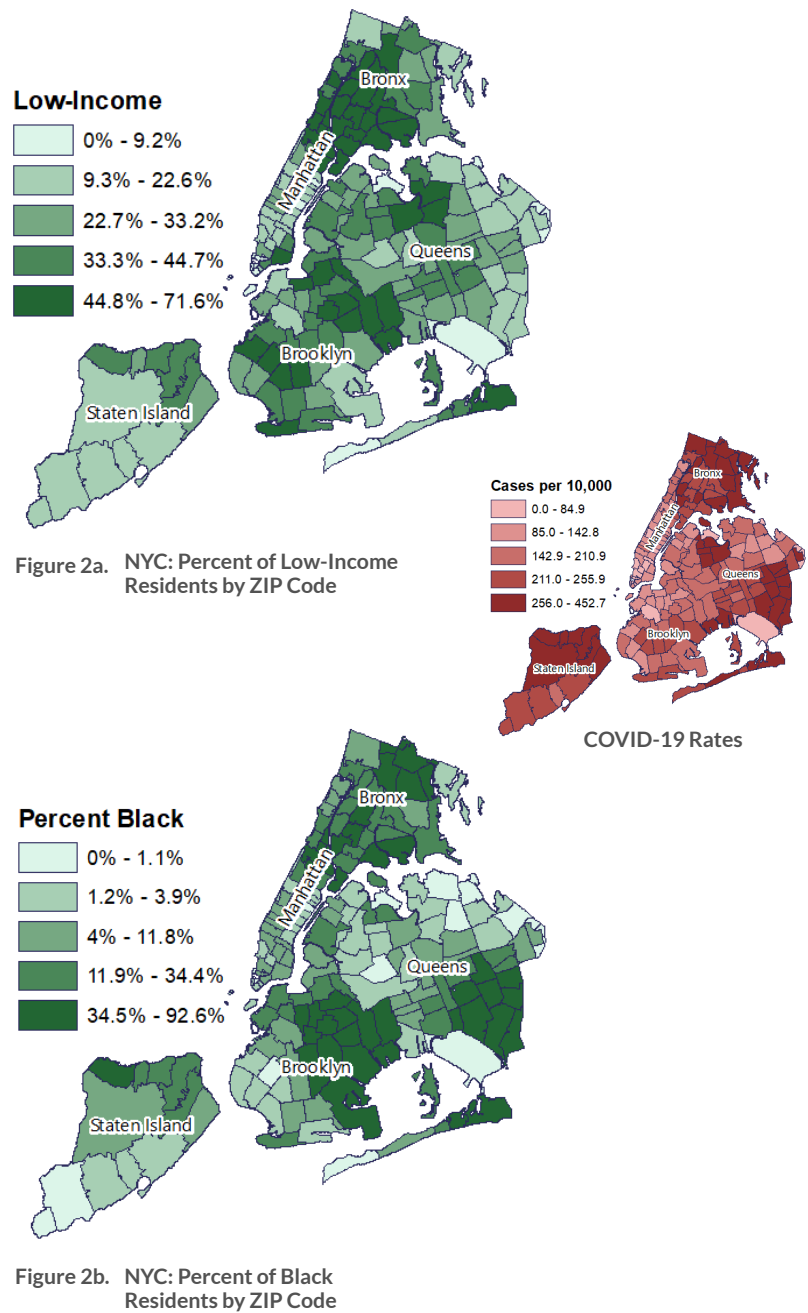
Figure 1. NYC: COVID-19 Rates by ZIP Code

Socioeconomic Factors and COVID-19

COVID-19 spread has not been equal across economic and racial lines in NYC. [Figures 2a, 2b] Lower-income neighborhoods have higher COVID-19 rates than higher-income areas. ZIP codes in the lowest quartile of incomes account for 36% of COVID-19 infections, while ZIP codes in the highest 25% of incomes represent only 10% of infections [1].

In addition to black neighborhoods having higher rates of COVID-19, citywide data show COVID-19 kills black and Hispanic New Yorkers at twice the rate of white New Yorkers. NYC residents of color are both more likely to have underlying health conditions and be frontline workers; a combination that elevates vulnerability to COVID-19 [2].

These disparities in COVID-19 reflect the persevering racial and economic inequalities in health status and emphasize the salience of primary care access and addressing the social determinants of health as a top priority to health care organizations.



Disparity Spotlight

ZIP code 11239, located in Spring Creek/East New York (Brooklyn) has a COVID-19 case rate that is 9.2 times higher than the COVID-19 case rate of zip code 10280, located in Battery Park City (Manhattan). The percentage of black residents 30 times higher in Spring Creek than in Battery Park City and the percentage of low-income residents is 7.1 times higher.

COVID-19 and Chronic Disease Burden

COVID-19 rates are both highest and growing most rapidly in NYC neighborhoods with the highest levels of chronic disease burden. [Figures 3a, 3b] Chronic conditions, such as diabetes and hypertension, increase the likelihood of COVID-19 infection and severe illness. The co-occurrence of COVID-19 and chronic disease in many communities is compounding a rapid and inequitable decline in community health.

Across the city, routine care is being delayed or forgone as a result of stay-at-home orders, limited provider capacity due to sick or redeployed health workers, and fear of becoming infected in a health care setting. Delays in care are consistently associated with worsened health outcomes. In one study, hypertensive patients with a six-month reduction in care following Superstorm Sandy resulted in two years of uncontrolled blood pressure [3]. It is anticipated that the health consequences of unmanaged chronic conditions will persist long after the COVID-19 pandemic.

A lack of chronic disease management and disproportionate rates of COVID-19, particularly in high-need communities, will worsen health outcomes and increase mortality in many neighborhoods of NYC.

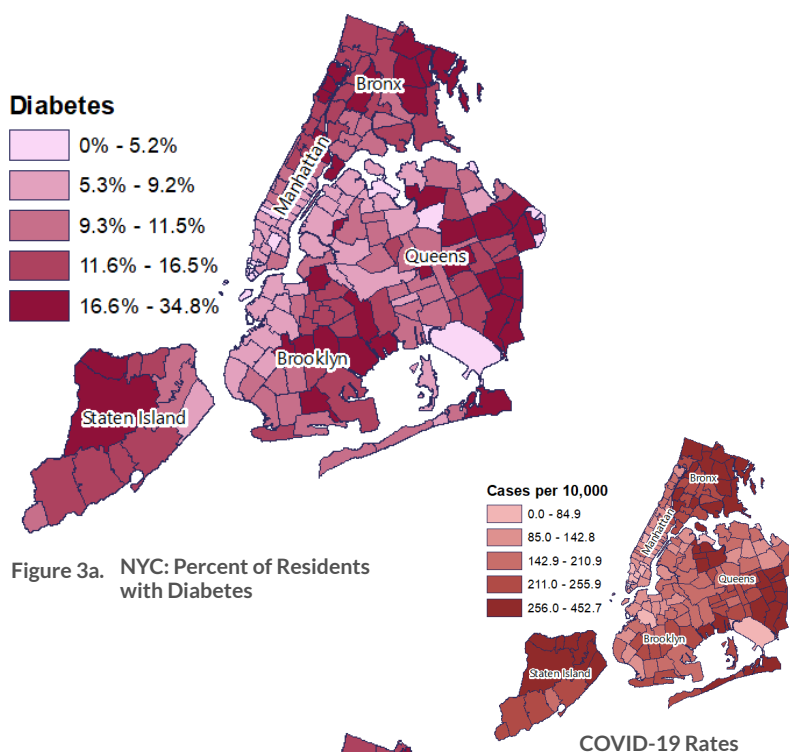


Figure 3a. NYC: Percent of Residents with Diabetes

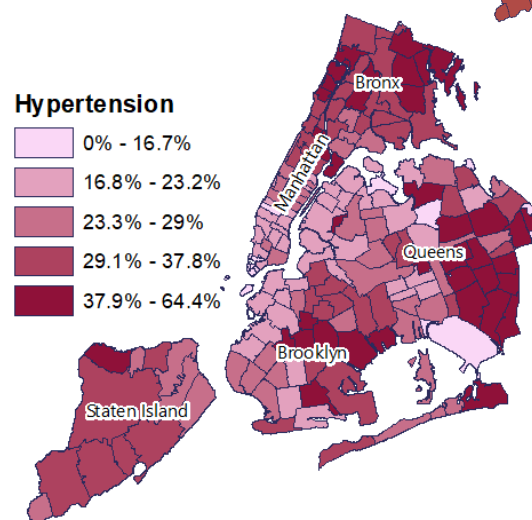


Figure 3b. NYC: Percent of Residents with Hypertension

Disparity Spotlight

ZIP code 10469, located in Pelham Garden (The Bronx) has had a COVID-19 case rate that is 4.6 times higher than 10007, located in Tribeca (Manhattan). The percentage of residents with diabetes is 4.7 times higher in Pelham Gardens than in Tribeca, and the percentage of residents with hypertension is 3.3 times higher.

- A data brief series examining all aspects of primary care access

COVID-19 and Primary Care Access

Many areas of NYC most affected by COVID-19 have the least access to primary care services. [Figure 4]. For many New Yorkers with chronic diseases, routine care has been delayed for several months. The temporary reduction of primary care will have long lasting effects on health outcomes and increase the need for primary care. The proactive support and expansion of the primary care system as part of the COVID-19 response is critical to the recovery of NYC and the communities hardest hit by the pandemic.

The demand for health care is already increasing several months into the pandemic, simultaneous with the health care system being negatively impacted by COVID-19; health care jobs declined by 1.4M in April 2020 [4]. The primary care system been particularly affected, with visit rates estimated to have decreased by 58% [4]. Many primary care practices have closed or scaled back; many are now offering telehealth visits, but the uptake has been a slow and cumbersome transition for both providers and patients.

A significant challenge, along with a reduced health care work force and lack of personal protective equipment has been decreased reimbursement. Although temporary provisions have now been established, low Medicare reimbursement for telehealth was initially a source of financial strain for practices; 53% of PCPs reported not being reimbursed for virtual visits [5]. Those who are reimbursed receive lower rates, with Medicare only reimbursing telehealth visits at 50% of in-person visit rates [5]. A lack of sustainable reimbursement and targeted investment will result in increased practice closures, exacerbate PCP shortages, and worsen primary care access.

Disparity Spotlight

ZIP code 11370, located in Steinway (Queens) has the highest COVID-19 case rate citywide, 6.4 times higher than that of the East Village (Manhattan). There are 79.1 times more PCPs per 10,000 residents in East Village than in Steinway.

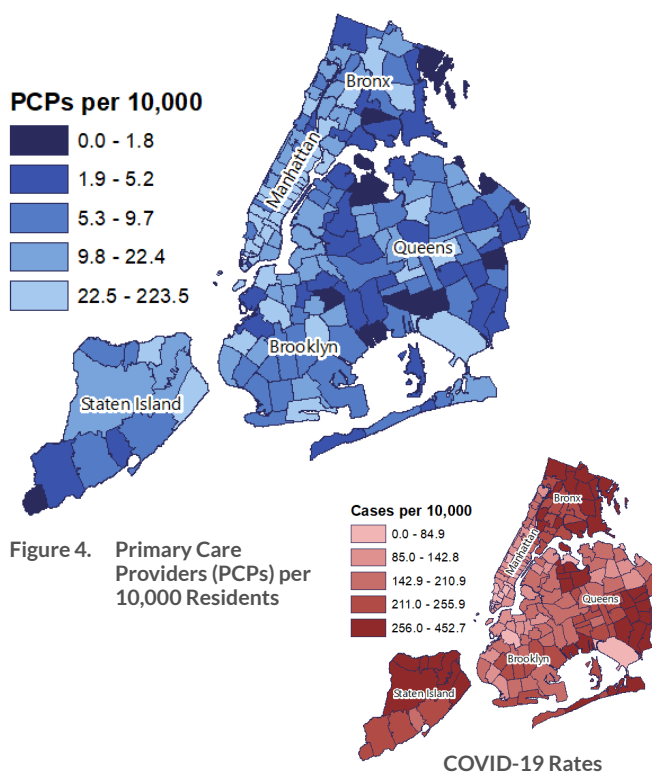


Figure 4. Primary Care Providers (PCPs) per 10,000 Residents

Finally, neighborhoods with high COVID-19 rates and poor primary care access are often served by Federally Qualified Health Centers (FQHC) which serve as an essential component of the primary care safety net for low-income and uninsured populations. As unemployment has increased, uninsured and publicly insured populations have also increased; the Medicaid population is expected to grow 20% [4]. However, like all primary care practices FQHCs are also struggling financially.

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Call to Action

As the COVID-19 pandemic deepens health disparities in vulnerable communities across the US, it is essential to prioritize the primary care system's response. A robust, high-performing primary care system will help mitigate worsening health outcomes and widening disparities, serving as a vehicle towards achieving health and economic equity. Action and investment must expand the current capacity of providers and increase the quality of primary care services to meet changing health needs of NYC residents both during and post pandemic, making social determinants of health a top priority in health care delivery.

Short-term actions:

- ➔ **Local and state officials must increase funding to support primary care practices to provide COVID-19 testing. Currently, one-third of practices have no testing capacity and one-third have limited testing capacity.**
- ➔ **Provide primary care practices and FQHCs with immediate relief funds to hire back furloughed staff, scale up operations, and manage the increase in demand for primary care through City, State or Federal funding.**

Long-term solutions:

- ➔ **Increase primary care investment from approximately five cents of the health care dollar to at least 14 cents in New York State.**
- ➔ **Create a new capital fund and deploy capital to reconfigure primary care facilities to address COVID-19 safety concerns as well as to increase access to primary care in underserved communities.**
- ➔ **Provide global prospective payment across all public and private insurers for primary care practices who serve uninsured and publicly insured populations.**

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Citations:

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Primary Care Development Corporation (PCDC)

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