

Research to Action:
**Building Health for All[®]
in the Face of COVID-19**

CHAPTER 5

**Addressing Health Disparities
in the Built Environment**

Date of Issue: June 16, 2020

In the face of COVID-19, real estate professionals, designers, and other decision makers are urgently requesting guidance on how to adapt their projects and portfolios to respond to the unique challenges presented by the pandemic. The Center for Active Design has prepared the following content to respond to this demand, using the best available evidence to date.

As the scientific evidence base around COVID-19 continues to evolve, we will update this material periodically to reflect emerging findings. Your feedback is appreciated—please reach out to covid19@fitwel.org with comments, questions, and insights for future updates.

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Research to Action: Building Health for All® in the Face of COVID-19

The global spread of COVID-19 has heightened awareness of the pressing importance of Fitwel's mission of building health for all. With people around the world spending an increasing amount of time indoors and in their local neighborhoods, the spaces where we live, work, study, and play have shifted dramatically. As we move through our collective response to COVID-19 and begin to recover, a new normal will emerge to create a more resilient society—and the buildings and public places we inhabit will play a critical role in this shift.

At the Center for Active Design, we are committed to ensuring our users and community have access to up-to-date resources that directly reflect the latest available health evidence. As part of this effort we will be sharing a series of resources to help guide building owners, property managers, designers, and employers as they respond to COVID-19 now and into the future. The five resources will focus on the following topics:

- 1. Leveraging Buildings to Mitigate Viral Transmission.** This resource will provide an overview of the basics of viral transmission, as well as strategies to mitigate transmission—including limiting physical interactions, handwashing, regular cleaning, ventilation, filtration, and humidity.
- 2. Building Trust in the Workplace.** This resource will provide guidance for cultivating employee and tenant trust, and enhancing perceptions of safety once office buildings are ready to re-open. We will cover topics, including but not limited to, emergency preparedness, communication, surveying, and signage.
- 3. Mental Health and COVID-19.** This resource will focus on the importance of considering mental health during crises, and how home environments can be optimized to promote feelings of well-being. Strategies covered will include greenery, outdoor spaces, high quality indoor air, sleep environments, and health-promotion programming.
- 4. Optimizing Density for People.** This resource will focus on how density can contribute to resiliency and public health, concentrating on a number of areas, including energy savings, affordable housing, diversity, public transit, sustainability, active transportation, and healthcare.
- 5. Addressing Health Disparities in the Built Environment.** This resource will explore the interconnected relationships between COVID-19, the social determinants of health, and chronic disease. Topics covered will include healthcare access, food access, housing quality, job roles, among others. This resource will also dig into specific strategies that can help address many of the inequities associated with negative COVID-19 outcomes, such as pollution, food environments, access to outdoor space, and community resiliency.

These resources are designed to contribute to an ever-evolving conversation, and we will stay abreast of new science as the research base expands. We are all in this together, and we look forward to continued collaboration to discover the best ways to meet the challenge of COVID-19.

CHAPTER 5

Addressing Health Disparities in the Built Environment

The onset of COVID-19 has shed increased light on the severe health disparities and societal inequities that exist globally. In countries across the European Union, including Bulgaria, Hungary, Italy, Romania, Slovakia, and Spain, Roma communities, who already face extreme racism and poverty, are at an increased risk of death from COVID-19.¹ In India, one of the hardest hit areas was Dharavi, the largest slum and one of the poorest areas of Mumbai.² Across the United States, Black communities are at a higher risk of contracting and also dying from COVID-19.³ Black and Latinx populations have been disproportionately impacted by the economic repercussions of the pandemic through job losses, increased financial insecurity, and a decreased likelihood of being able to work remotely.⁴

While everyone has been impacted by COVID-19,
underserved communities are bearing the greatest burden.

The intersection of demographic and geographic disparities

Enduring health disparities have contributed to the disproportionate impact COVID-19 has had on communities of color.

According to 2017-2018 data from the Bureau of Labor Services, while 29.9% of white workers can telework, only 19.7% and 16.7% of Black and Latinx workers, respectively, can work from home. While everyone has been impacted by COVID-19, underserved communities are bearing the greatest burden.

No country is free of health disparities, but each nation experiences these inequities differently based on a complex web of historical, demographic, political, and other societal factors. Health disparities are impacted by a range of influences, such as healthcare access, education, socioeconomic status, race, and employment, among others. This chapter will provide deeper focus on the US, and specifically New York City, as an epicenter of the pandemic.

Depending on the context, equity can take on a variety of different meanings. For the purpose of this publication, when we refer to equity, we are really focused on health equity, which is about creating an environment and society where all people have an equal and fair opportunity to attain their full health potential.⁵

Throughout Chapter 5, we will delve into a range of health disparities and explore how specific design and operations strategies can enhance equity to promote population health and well-being—now and into the future.

In the US, COVID-19 reflects a continuation of a historical trend that can be attributed to systemic inequities across the nation. This is clearly exhibited by the enduring gap between lifespans of Black and White Americans. In 1960, the average lifespan among Black people was 63.6 years while White people lived an average of 70.6 years. By 2015, the gap had narrowed slightly, but was still significant, with White people living an average of 78.9 years and Black

Americans living an average of 75.5 years.⁶ These disparities often become more profound when we examine specific cities. For example, within New York City, life expectancy is 76 years in Morrisania and Crotona, a predominantly Black and Latinx neighborhood in the Bronx, compared to 85 in the Upper East Side, a predominantly White neighborhood.⁷

Within the United States, people of color are more likely to experience diabetes, obesity, stroke, heart disease, and cancer than Whites. Compared with Whites, the risk of being diagnosed with diabetes is 77% higher for Blacks and 66% for Latinxs.⁸

These disparities in chronic conditions have had a direct impact on health outcomes related to COVID-19. In New York State, nearly 90% of those who died from COVID-19 also suffered from at least one comorbidity, with hypertension and diabetes being the most prevalent. Since Black and Latinx people are more likely to face chronic conditions they have also been more likely to die from COVID-19. Specifically, in New York City, Black people are twice as likely to die from COVID-19 as White people.

These health disparities are not only severely problematic from an equity perspective, but they are also responsible for significantly increasing healthcare costs. Analysis suggests that by addressing health disparities, the United States could cut healthcare costs by up to \$93 billion per year and avoid \$42 billion in lost productivity and economic losses due to premature deaths.¹⁰

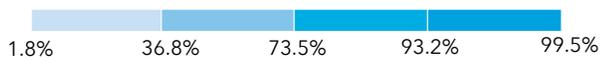
Until the United States addresses broader inequities, these health disparities will persist. This chapter is meant to guide policy makers and business owners looking for guidance on how they can leverage the built environment to promote long-term health of the communities they serve.

Disparities Across NYC Neighborhoods

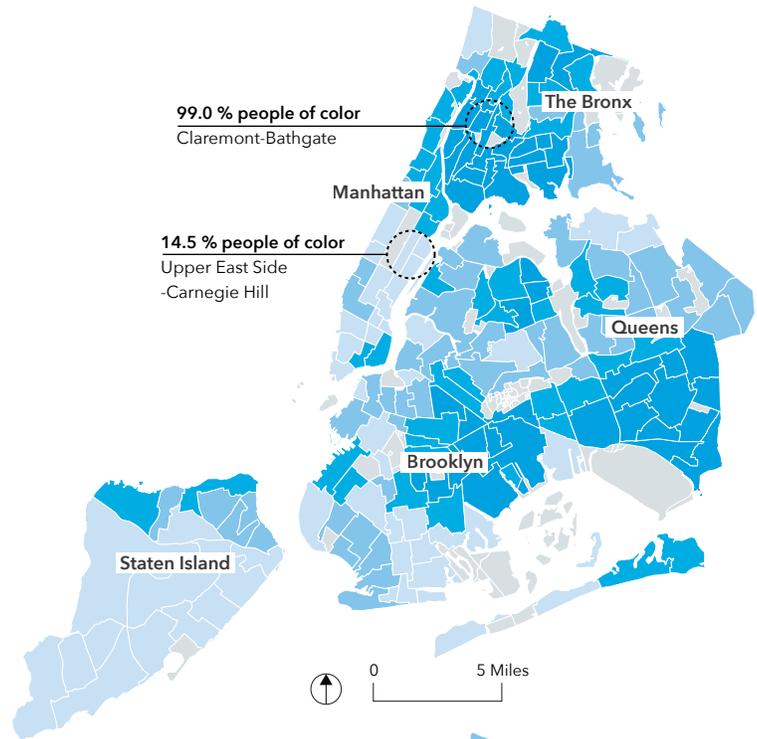
The maps below graphically describe the relationships between neighborhoods and premature mortality rate, minority representation, poverty rates, and COVID-19 death rates. What this shows us is that economic, racial, and health trends have similar patterns, with residents of the Claremont

People of Color Representation

Percent of neighborhood residents who identify as people of color

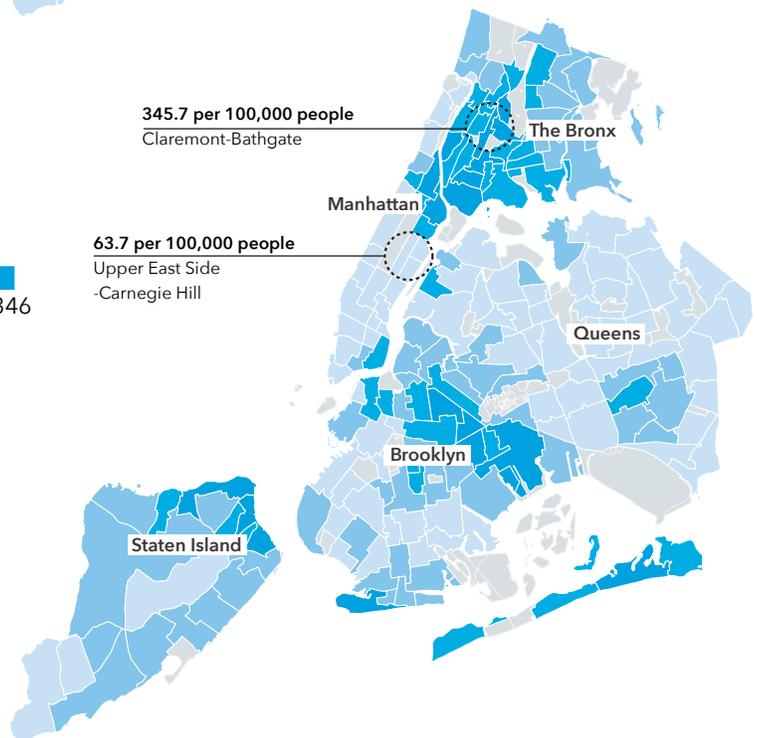
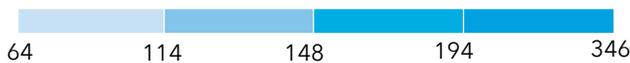


Rickers Island and Unpopulated Areas, such as parks, Airport, and cemeteris



Premature Mortality Rate

Age-adjusted death rate of those younger than 65 per 100,000 people under the age of 65

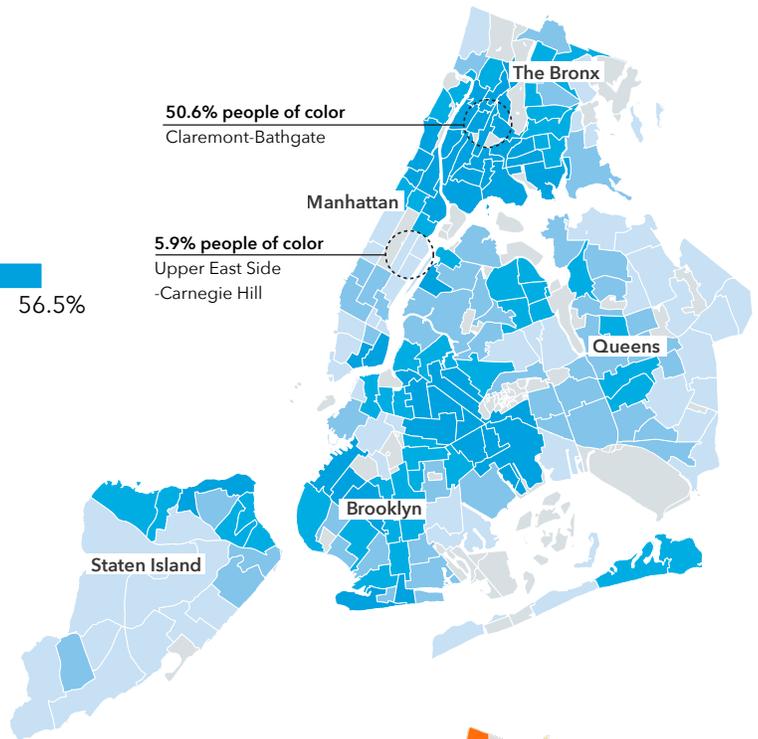
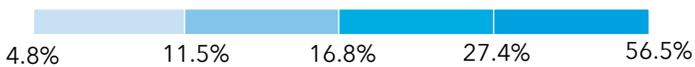


Source: American Community Survey (2016). 2010-2014 5 years estimates. NTA-level estimates prepared by NYC Department of City Planning. Retrived from: <https://www1.nyc.gov/site/doh/health/neighborhood-health/nyc-neighborhood-health-atlas.page>

neighborhood in the Bronx, who are primarily Black and Latinx, experiencing disproportionate rates of COVID-19, premature mortality, and poverty. Meanwhile, those living on the Upper East Side, who are primarily White have escaped many of the detrimental impacts of COVID-19.

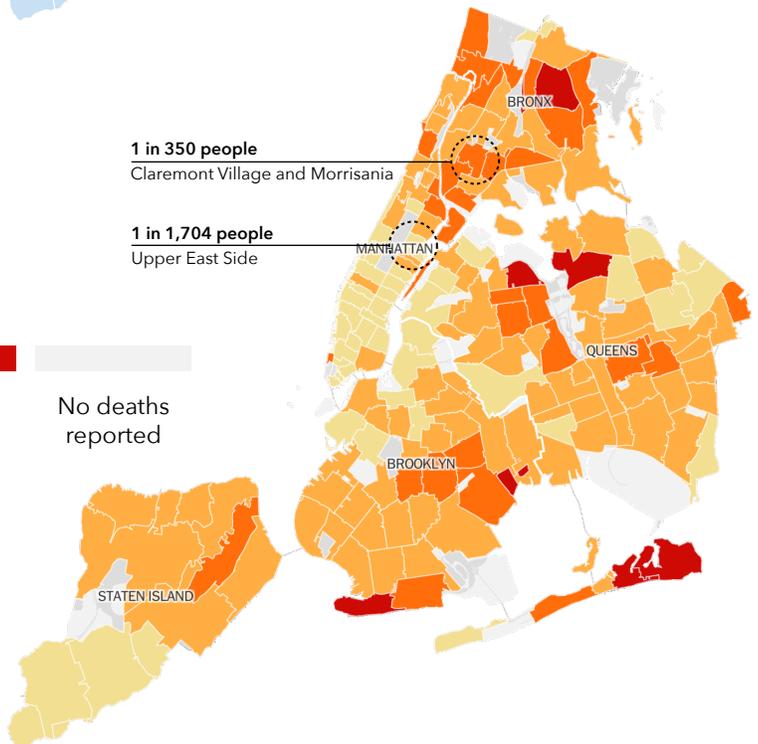
Poverty Rate

Percent of population living below the federal poverty level



COVID-19 Deaths Per Capita

Share of population that has died from COVID-19



The New York Times. (2020). New York City coronavirus map and case count. Data from New York City Department of Health and Mental Hygiene, Retrieved from <https://www.nytimes.com/interactive/2020/nyregion/new-york-city-coronavirus-cases.html>

Strategies for Leveraging the Built Environment to Address Health Disparities and Long-Term Community Health

The spaces where we live our lives have a direct impact on our health and well-being, and the built environment is a leading social determinant of health. The World Health Organization defines social determinants of health as “the conditions in which people are born, grow, live, work, and age.”¹¹ In addition to the built environment, other social determinants include, but are not limited to employment, healthcare access, discrimination, food access, and wealth.

Minority groups around the world are regularly excluded from health-promoting environments, largely driven by a legacy of systemic racism. Within the United States, disparities in the built environment, such as food access, air pollution, green space, and maintenance of the public realm have systematically exposed communities of color to disproportionately high rates of chronic disease, violence, and prolonged depression.^{12 13 14}

There are many ways our built environment can be leveraged to enhance health equity and directly address

The World Health Organization defines social determinants of health as “the conditions in which people are born, grow, live, work, and age.”

health disparities. This chapter addresses several strategies, including increasing access to quality, affordable housing, improving access to essential services, increasing food security, decreasing air pollution, hiring locally, increasing access to information, and increasing access to a high-quality public realm. This is far from a comprehensive list of how the built environment must be designed to address equity, and is focused on the specific context found in the United States. As we continue to listen to leaders on health equity and learn about these issues, we will build upon this resource as needed.

Expand Access to Quality, Affordable Housing

Increase housing affordability and quality to improve health outcomes

Health disparities faced by low-income and minority populations in the United States are often related to negative conditions experienced within residential communities. This is largely due to a lack of consistent investment within and across predominately Black and

Latinx neighborhoods. For example, certain environmental conditions commonly found in housing for low-income families—such as mold, poor ventilation, and pests—have been linked to poor health.¹⁵ In addition, limited access to affordable housing has created overcrowded spaces,

defined by the World Health Organization as a condition where the number of occupants exceeds the capacity of the dwelling space.¹⁶ COVID-19 has heightened awareness about the adverse effects of overcrowding, which is a condition most frequently impacting low-income populations. For more information on how overcrowding can contribute to viral transmission, see Chapter 4: Optimizing Density for People. On a neighborhood level, safe street infrastructure, walkability, and access to affordable fruits and vegetables, parks, and public transportation, are some of the ways the built environment is tied to health.¹⁷

Disparities in housing quality have long been recognized and persist today, with approximately 7.5% of Black people living in substandard housing compared to just 2.8% of white people.¹⁸ It is also important to note that during difficult times such as the current pandemic, housing owners, who are disproportionately White, also benefit from increased housing stability when compared with renters, who are disproportionately Black and Latinx.¹⁹

Access to quality, affordable housing is a baseline need for a healthy life. Today, that need is not being fully realized, especially within communities of color. Without access to safe, affordable housing, it becomes impossible to achieve an optimal quality of life. A review of the literature connecting health and housing published in Health Affairs identifies four main pathways linking the two: 1) stability, 2) affordability, 3) quality & safety, and 4) neighborhood.

Stability

Housing instability means that individuals do not have a reliable place to call home. Situations involving housing instability can include moving frequently, having trouble paying rent, overcrowding, couch-hopping, and homelessness. Each of these situations is associated with degraded physical, mental, and social health outcomes. Facing foreclosure is one of the most severe examples of housing instability and has a demonstrated association with depression, anxiety, increased alcohol use, psychological distress, and suicide.²⁰ Conversely, access to stable housing can have a tangible and beneficial impact on health outcomes. One study out of Oregon found that by providing individuals who are experiencing unstable

housing with access to affordable housing, they were able to decrease Medicaid expenditures by 12%.²¹

Affordability

Affordability of housing is also directly tied to stability. Today, nearly half of American renter households are cost-burdened, meaning they are dedicating more than 30% of their income to housing.²² Paying too much for rent often places individuals and families in a precarious position where they are weighing paying rent against meeting other essential needs like paying for food or seeking out healthcare services.

Pathways Connection Housing and Health



There are 4 pathways connecting housing and health.

- 1 stability, defined as having a reliable place to call home
2. affordability, defined as not spending more than one-third of monthly income on rent
3. quality & safety, defined as having a home free of environmental hazard, and
4. neighborhood, defined as having a home located in a health-promoting neighborhood.

Source: Adapted from Taylor, L. (2018). *Housing and health: Overview of the Literature*. Health Affairs Health Policy Brief.

Quality & Safety

Housing needs to not only be stable and affordable, but also safe. Poor housing conditions, including but not limited to exposure to lead, asbestos, mold, unregulated temperatures, and poor indoor air quality are associated with a range of negative health outcomes, including asthma and cardiovascular events.²³ Evidence suggests that efforts to improve indoor air quality within residential settings can have significant and positive health benefits, especially for children.²⁴

Neighborhood

Finally, the location of affordable housing is also vital. Access to affordable housing in mixed-income neighborhoods must be expanded. This is a necessary step to better integrating our communities. 70% of poor Black and 63% of poor Latinx people live in high-poverty

neighborhoods, compared to just 35% of poor Whites and 40% of poor Asians. This segregation is not just confined to the poor, with 48% of all Black and 41% of Latinxs living in high-poverty neighborhoods, compared with just 16% of all whites and 21% of all Asians.²⁵

Creating neighborhoods that are mixed-income and more diverse has the ability to markedly improve health outcomes. An evaluation of benefits and disadvantages of living in one of Chicago's new mixed-income developments found that relocated public housing residents experienced a decrease in stress and an increase in self-esteem after less than two years living in the new environment.

Increasing access to quality affordable housing in mixed-use, walkable neighborhoods is the first step to achieving health equity.

Improve Access to Essential Services

Respond to service gaps to increase access to healthcare, education, recreation, and more

Locating affordable housing in mixed-use, walkable neighborhoods with access to essential services, such as healthcare, schools, and civic centers can have a profound impact on community health, especially during times of crises.

In the midst of COVID-19, access to nearby healthcare resources has become increasingly important, given travel restrictions. While more research is needed on differential availability of quality healthcare services across neighborhoods, recent reporting from press outlets indicates that there is room for improvement in both rural and urban areas. An article published in 2018 by the New York Times reports that within rural areas, at least 85 hospitals, or about 5% of the country's total, have closed since 2010.²⁶

Urban areas are seeing a similar trend, according to a report on healthcare out of the Pittsburgh Post-Gazette and Milwaukee Journal Sentinel. This report found that between 1970 and 2010, the number of hospitals across 52 major U.S. cities decreased by 46%, and a majority of the hospitals that closed were located in poor areas.²⁷

Longer travel times to secure quality healthcare can have fatal impacts in crisis situations, and emerging evidence indicates that long travel times can also harm long-term health. One study found that longer travel times to a general practitioner were associated with decreased rates of blood pressure tests in urban areas and fewer GP consultations in rural areas.²⁸ These same disparities have been seen in the midst of COVID-19. Reports find that in several states, testing locations are more likely to be found predominantly White than majority-minority neighborhoods, despite COVID-19 disproportionately impacting communities of color.

Reports find that in several states, testing locations are more likely to be found in predominantly White neighborhoods than in majority-minority neighborhoods, despite COVID-19 disproportionately impacting communities of color.

Disparities in COVID-19 Testing Locations in Texas Cities

City	Number of testing sites in census tracts that are ...		
	Whiter than city median	less White than city median	Difference
Dallas	22	7	15
El Paso	13	5	8
Austin	16	9	7
FortWorth	12	6	6
San Antonio	18	17	1
Houston	13	18	-5

Notes: White does not include Hispanic or Latina. Testing site data are as of May 25.

One example of the disparities in COVID-19 testing locations is seen in Texas, where neighborhoods that are less White than city median have significantly fewer testing centers than those areas that are Whiter than city median.

Source: McMinn, S., et al. (2020). In large Texas cities, access to coronavirus testing may depend on where you live. NPR Morning Edition, Retrieved from <https://www.npr.org/sections/health-shots/2020/05/27/862215848/across-texas-black-and-hispanic-neighborhoods-have-fewer-coronavirus-testing-sit>

New York Public Library Community Support Resources

During these challenging times, the Library is here to help our communities to find the resources they need. NYPL has collected a selection of links to help our patrons that find important information and help. Explore these categories to find tips for economic resources, health and wellness services, housing information, and more.



Business, Career & Fiancial Support
Resources for information on unemployment and job seeker sources, small business support, and more



Health & Wellness
Information and remote resources for accessing healthcare information, mental health services, and more.



Food Security
Resources for options for food-insecure people and families who are able to leave their home,as well as delivery options for homebound, elderly, or ill persons, and more.



Housing & tenants Rights
Information about a wide array of housing resources, including affordable housing, options for those experience homelessness, senior living, and more.

The New York Public Library, like other public libraries across the nation, offers important resources to support community members and address the social determinants of health.

Source: New York Public Library. (2020). Community Support Resources. New York Public Library, Retrieve from <https://www.nypl.org/about/remote-resources/community-resources>

Educational opportunity is another disparity tied to health outcomes. Access to well-resourced schools, with low pupil-teacher ratios, higher wages for teachers, and longer school years, is directly associated with improved health and quality of life.²⁹ Across the United States there are vast differences in educational resources across neighborhoods, with schools located in predominately Black and Latinx neighborhoods having fewer resources than those located in predominately White neighborhoods. These disparities have always existed in the United States, compounding the impact.³⁰

Educational opportunities impact a range of health outcomes, including but not limited to self-rated health, smoking, obesity, and mortality.³¹ Increasing access to well-resourced schools in those neighborhoods that have suffered from disinvestment for generations can have a significant impact on reducing health disparities.

Neighborhood civic resources like libraries and community centers contribute to increased social cohesion and community engagement, becoming especially important during times of crisis.³² While in the midst of COVID-19 these spaces may not be open to visitors, they offer valuable virtual programs and resources and share vital information that may not otherwise be available to the surrounding community. Even if they cannot function in their normal capacity, community resources such as public libraries are well-positioned to support community members and address social determinants of health.³³ For example, in New York City, the public library system has played an essential role in disseminating information and providing a variety of resources such as financial support, health and wellness information, food security, and guidance on housing and tenant rights.³⁴

Increase Food Security

Enhance access to fresh fruits and vegetables

Healthy food is an essential need that many across the United States lack. In 2009, The U.S. Department of Agriculture found that 23.5 million people do not have access to a supermarket within a mile of their home.³⁵ Those living in low-income neighborhoods have poorer access to healthy foods than those living in higher-income neighborhoods, with many high-poverty communities identified as food deserts.³⁶

Food deserts are defined as communities that have limited access to affordable and nutritious foods. These areas tend to have high rates of food insecurity, which contribute to a range of negative health outcomes, including obesity, hypertension, and diabetes.³⁷

As of 2018, approximately 37 million individuals lived in food insecure households.³⁸ This burden disproportionately impacts people of color, with Black and Latinx households being twice as likely to face food insecurity when compared with White households.³⁹ Within New York City, neighborhoods with the highest proportion of Black residents and the lowest median household incomes are the most likely to have limited access to

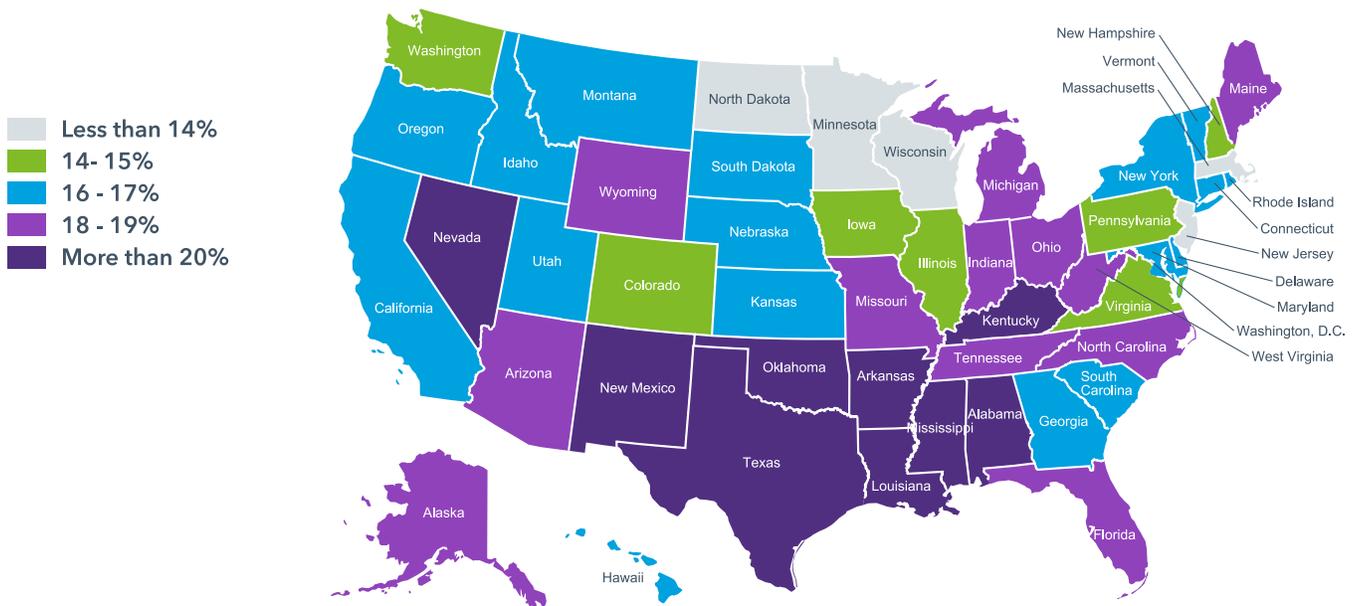
Each additional supermarket in a census tract is associated with a 32% increase in fruit and vegetable intake among Black residents.

healthy food options, while those living in middle and upper-income, predominantly White areas, are most likely to have high levels of access to healthy foods.⁴⁰

COVID-19 has exacerbated food insecurity across the nation, impacting those struggling through job losses, loss of income, and unexpected medical bills. Feeding America estimates that up to 54 million people across the United States could go hungry if assistance is not provided.⁴¹

A significant evidence base indicates the food environments have a measurable impact on eating habits. For example, one study found that each additional supermarket in a census tract was associated with a 32% increase in fruit and vegetable intake among Black residents.⁴² Eating

Projected Food Insecurity Rates Across the US in 2020



Food insecurity is expected to drastically increase in 2020 in response to economic conditions created by the COVID-19 Pandemic.

Source: Feeding America. (2020). *The impact of the coronavirus on local food insecurity*. Feeding America, Retrieved from https://www.feedingamerica.org/sites/default/files/2020-05/Brief_Local%20Impact_5.19.2020.pdf

habits have a direct impact on health outcomes. One study found a significant association between grocery store access and reduced obesity rates within communities across multiple states.⁴³ In order to address food insecurity and the associated health outcomes, food access must be increased within Black and Latinx communities, not just during times of crisis, but in the long-term.

The specific strategies applied to reduce disparities in food access will vary depending on a community's needs. For some neighborhoods, it may make sense to increase the number of farmers markets. Some neighborhoods may benefit from a full-size supermarket that offers fresh produce for reasonable prices. In other cases, mobile markets may be needed to bring healthy options to hard-to-reach areas.⁴⁴

Increasing the availability of fruits and vegetables in a neighborhood is vital, but there are other structural barriers that must also be addressed. For example, cost can also be a barrier, and increasing the affordability of

produce is essential to improving fruit and vegetable consumption among low-income populations.⁴⁵

Food access interventions to increase affordability could focus on ensuring that all markets are able to accept SNAP (food stamps) and WIC (women, infants, and children) benefits. Through its Health Bucks program, NYC has increased access to fruits and vegetables by providing a \$2 coupon for every \$5 spent using SNAP benefits at participating farmers markets. This program successfully increased use of SNAP benefits at NYC farmers markets, indicating an increase in access and affordability of fresh produce.

No one strategy alone can create a stronger, more resilient food environment, but rather, interventions must strive to address both accessibility and affordability among low-income and Black and Latinx communities to increase consumption.⁴⁶

Decrease Exposure to Air Pollution

Reduce air pollution to decrease asthma rates and improve overall health

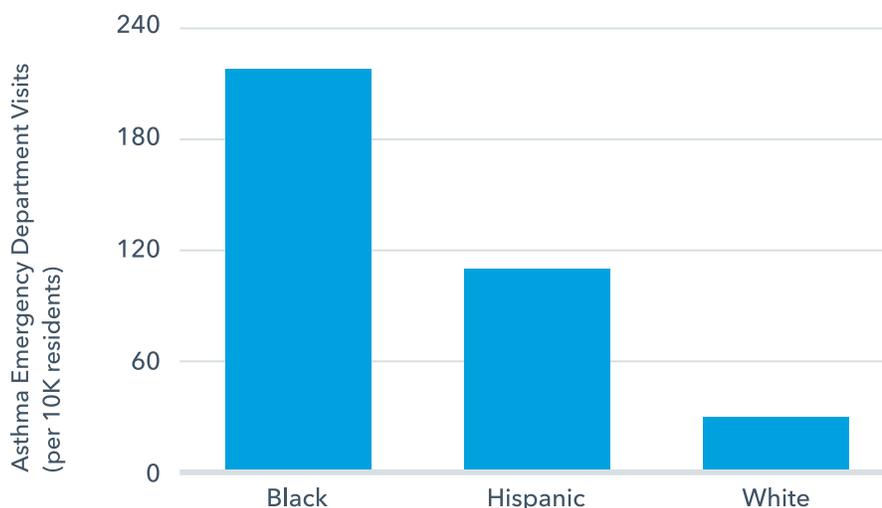
Like poor indoor air quality, exposure to air pollution has severe health implications, especially in the case of long-term exposure. Air pollution is the fifth leading risk factor for death globally, and accounts for 4.2 million deaths and 103.1 million disability adjusted life years in 2015.⁴⁷ The impacts of air pollution have been especially relevant during the COVID-19 pandemics, as a small increase in long-term exposure to PM2.5 has a demonstrated association with increases in the COVID-19 death rate.⁴⁸ Exposure to high levels of air pollution is associated with a range of respiratory conditions including asthma and lung cancer.⁴⁹ ⁵⁰ In New York City, during an average year PM2.5 emissions from cars and trucks are responsible for 320 premature deaths and 870 emergency department visits.⁵¹

A long history of inequitable development practices has created a society where Black and Latinx communities as well as low-income communities are much more likely to live in areas marked by poor ambient air quality. A study analyzing disparities in mortality associated with air quality across more than 200 U.S. cities found that compared with

majority White communities, predominantly Black communities are more likely to suffer from premature death associated with particle pollution.⁵²

As noted in Chapter 4: Optimizing Density for People, driving and car traffic is a leading contributor to air pollution, increasing emissions and degrading ambient air quality. Evidence suggests that living near major roadways can increase exposure to poor air quality, increasing risk of morbidity and mortality. In communities around the United States, communities of color are more likely to be located near major roadways. Specifically, one study found that in Southern California, communities of color and high-poverty neighborhoods experience more than twice the traffic density than the rest of the region.⁵³ Another study found that, due to a history of redlining and disinvestment in Black communities, Black people are more likely to live in areas where there is high exposure to air pollution. One study analyzing 1,431 census tracts explored potential associations between historical redlining practices and current socioeconomic, demographic, and environmental conditions. The analysis discovered that as the security rating from the Home

Asthma Emergency Department Visit Rate per 10,000 Residents, by Race and Ethnicity



In New York City, emergency department visits in response to asthma are much higher among Black and Latinx communities than White communities.

Source: New York State Department of Health. (2013). New York State Asthma Surveillance Summary Report. Table 6-1: Asthma Emergency Department Visit Rate per 10,000 Residents.

Owner's Loan Corporation used for redlining worsened, the current percentage of the population living in poverty, percentage of population that was Black and Latinx, and the exhaust particle emissions all increased.⁵⁴ In addition, emergency department visits due to asthma were 2.4 times higher in previously redlined census tracts than others.

Increasing access to neighborhoods with low air pollution will be vital when it comes to addressing health disparities. This can be achieved through a variety of different strategies including, but not limited to, implementing parking efficiency practices, remediating all contaminated brownfields, siting local residential areas away from noxious sources (e.g. heavy mechanical, industrial, and agricultural sites), and increasing bike- and pedestrian-friendly infrastructure.

Increase Access to Green, Well-maintained Open Spaces

Expand access to high-quality parks and open space

In the midst of COVID-19, many have rediscovered the unique benefit provided by well-maintained neighborhood outdoor spaces. According to the [CDC](#) "Staying physically active is one of the best ways to keep your mind and body healthy. In many areas, people can visit parks, trails, and open spaces as a way to relieve stress, get some fresh air and vitamin D, stay active, and safely connect with others."⁵⁵ As established in Chapter 3: Addressing Mental Health Within Residential Settings and Chapter 4: Optimizing Density for People, access to well-maintained outdoor spaces provides valuable opportunities for restoration, physical activity, and even physically distant social interaction.⁵⁶ For those without access to quality open space, the burden of quarantine has been greater, marked by isolation and limited access to physical activity opportunities and spaces for restoration.

The health benefits of park access are wide ranging, with one study out of Kansas City, MO finding that those without a park nearby were twice as likely to suffer from 2 or more chronic diseases.⁵⁷ Evidence suggests that those with access to nearby parks and recreational facilities have a decreased risk of obesity, and these impacts are especially profound among children.

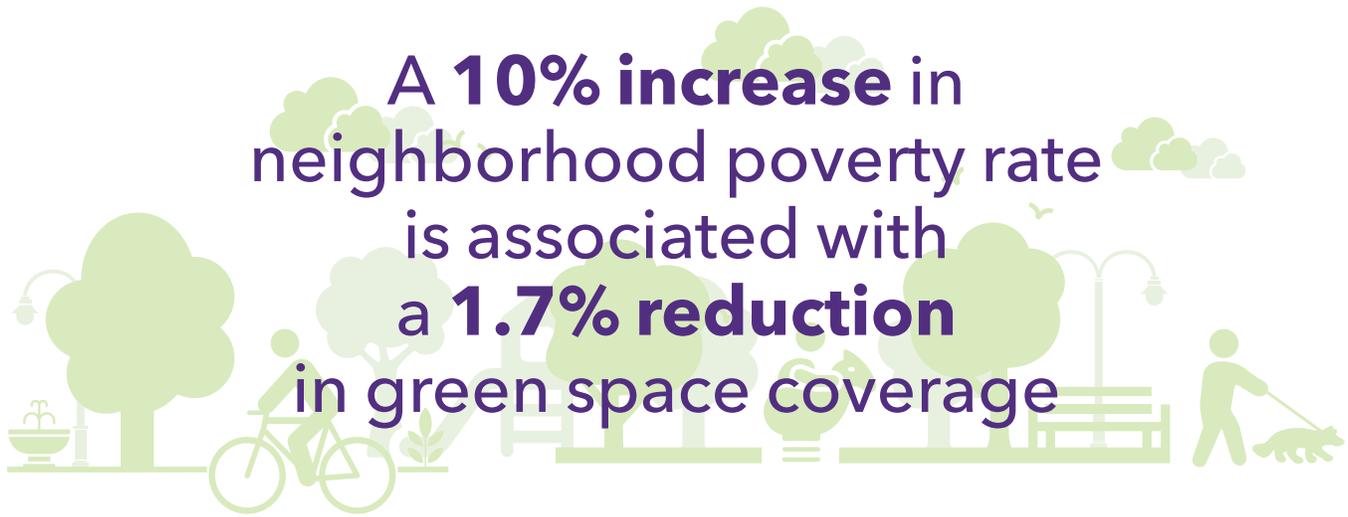
One study found that Black children with access to parks and recreational facilities had 0.40 times the prevalence

People without a park nearby are twice as likely to suffer from 2 or more chronic diseases.

of obesity than those without access. This means that Black children without access to these resources were significantly more likely to have obesity.⁵⁸ This is especially important to note, given that neighborhoods with high poverty rates and predominantly Black and Latinx neighborhoods are less likely to have parks and green space nearby, specifically in urban and suburban areas. In urban centers, a 10% increase in poverty corresponds to a 1.7% decrease in green space. When it comes to racial disparities this trend also exists in rural areas where neighborhoods with predominantly Black and Latinx residents generally have decreased access to parks and green space.⁵⁹

It is also important to consider the quality of the public spaces available to residents depending on their neighborhood's demographic makeup. To effectively benefit a neighborhood, public spaces must be safe, well-maintained, designed, and programmed to meet community needs.⁶⁰ Open spaces in predominantly Black and Latinx communities are often neglected, and suffer from disrepair because of substantial disinvestment. One

Correlation Between Green Spaces and Poverty.



Source: "Wen, M., et al. (2014). Spatial disparities in the distribution of parks and green spaces in the USA. *Annals of Behavioral Medicine*, 45(Suppl 1), S18-S27."

study in Greensboro, North Carolina, found low-income and majority-minority communities had fewer wooded areas and more trash cans than majority White areas. In addition, public spaces in White neighborhoods were generally better maintained than those in communities of color.⁶¹

A similar trend was seen in Baltimore, where park quality scores, which accounted for aesthetics, open space quality, trail quality, sports facility quality, and several other factors were significantly lower in neighborhoods that were primarily Black and Latinx. Meanwhile, the highest quality parks were found in predominantly White neighborhoods.⁶² Such disparities are not uniform across cities.

The same study found that in Seattle, low-income neighborhoods had access to higher quality parks, and there were no significant differences found between open spaces in majority-minority neighborhoods and majority White neighborhoods. It is important to note that Seattle is 70% White, while Baltimore is 53% White, highlighting overarching demographic disparities across United States cities.

Green, well-maintained open spaces have an important role to play in communities' recovery from COVID-19 now and into the future, and are an essential part of creating a more resilient and equitable society.

FITWEL STRATEGIES

Fitwel is the world's leading certification system committed to building health for all®. Each of the strategies included in the Fitwel Community Scorecard is aimed at enhancing physical, mental, and/or social health within residential-oriented mixed-use neighborhood projects. Strategies are separated into 12 sections, each of which is summarized below.



CM: Community Scorecard

Community Composition and Location

The Community Composition and Location Section of the Fitwel Community Scorecard includes strategies aimed at improving area walkability. Strategies include, but are not limited to, incorporating a diversity of land uses, locating projects away from noxious sources, remediating contaminated brownfields, and prioritizing infill development. These strategies are especially important within low-income and minority communities to promote increased investment and mitigation of environmental hazards.

Access

The Access Section of the Fitwel Community Scorecard includes strategies aimed at diversifying transit options and enhancing safety of pedestrians and cyclists. Strategies include, but are not limited to, providing a universally accessible site, providing outdoor lighting, providing enhanced transit stops, and enhancing bicycle infrastructure through bicycle lanes or pathways, a bike share program, and/or bicycle parking. These strategies are especially important within low-income and minority communities to promote increased safety and provide a wide variety of transit options to better connect with surrounding neighborhoods.

CM: *Community Scorecard*

Community Open Space: Design

The Community Open Space: Design Section of the Fitwel Community Scorecard includes strategies aimed at improving the quality of open spaces to enhance the positive health impacts of these amenities. Strategies include, but are not limited to, featuring natural elements within all parks and plazas, providing or connecting to multi-use trails or green-ways, incorporating playgrounds and playscapes into open spaces, and providing free and accessible community gardens. These strategies are especially important within low-income and minority communities to increase diversity of amenities provided and correct for historical disinvestment within these areas.

Community Open Space: Entrances

The Community Open Space: Entrances Section of the Fitwel Community Scorecard includes strategies aimed at creating a welcoming environment for visitors to open spaces. The two strategies included in this section include implementing design features to maximize visibility into open spaces, and providing wayfinding at entrances to open spaces. In light of COVID-19 these strategies are especially important to ensure individuals can see how many people are within a space at any given time, and that all are aware of social distancing measures and practices. Within low-income and minority communities these strategies can also positively impact residents and better demonstrate that open spaces were designed for their use.

Community Open Space: Management

The Community Open Space: Management Section of the Fitwel Community Scorecard includes strategies aimed at optimizing open space through maintenance and activation. Strategies include, but are not limited to, establishing and implementing a regular maintenance plan for open spaces, activating open space with program-ming, and incorporating community-driven public art in open spaces. In light of COVID-19 these strategies are especially important to increase perceptions of safety and comfort within outdoor areas and to show community members that they continue to be welcome within these spaces. Within low-income and minority communities these strategies can also correct for generations of disinvestments in public spaces and maximize beneficial impact.



CM: *Community Scorecard*

Outdoor Environment

The Outdoor Environment Section of the Fitwel Community Scorecard includes strategies aimed at improving environmental quality by decreasing air pollution and noise disturbances and enhancing water quality. Strategies include but are not limited to, establishing and implementing a tobacco- and smoke-free policy for all outdoor spaces, enhancing ambient air quality, and conducting regular water quality testing. Given the association between air pollution and mortality among COVID-19 patients, and the increased exposure low-income and minority communities have to air pollution, these strategies are more important than ever.

Building Certification

The Building Certification Section of the Fitwel Community Scorecard includes strategies aimed at optimizing buildings for health by achieving an accredited building certification for a significant proportion of area buildings. In low-income and minority neighborhoods where housing improvements are needed, applying Multifamily Residential scorecards has the potential to increase access to health-promoting housing.

Community Assets

The Community Assets Section of the Fitwel Community Scorecard includes strategies aimed at ensuring all residents have access to key resources designed to enhance equity and increase social capital. Strategies include, but are not limited to, providing a dedicated arts and cultural venue, providing a healthcare facility, providing a childcare facility, and providing a civic resource, such as a public school, public library, post office, etc. Within low-income and minority communities, these resources are uniquely suited to support residents and address the social determinants of health.

CM: *Community Scorecard*

Water and Restroom Access

The Water and Restroom Access Section of the Fitwel Community Scorecard includes strategies aimed at increasing the comfort of the public realm. The two strategies in this section include providing universally accessible drinking water supplies in outdoor and shared spaces, and providing universally accessible restrooms in open spaces. Providing access to these spaces and cleaning regularly increases residents' ability to enjoy public space—something that is especially valuable to those without access to private outdoor space.

Healthy Food Environment

The Healthy Food Environment Section of the Fitwel Community Scorecard includes strategies aimed at increasing access to nutritious food and drink. Strategies in this section include, but are not limited to, providing grocery stores or food markets, marketing healthy food retail options, and providing access to locally-grown produce. Creating a healthy food environment should involve increasing access, educational resources, and affordability, all of which are essential when it comes to supporting healthy eating in low-income neighborhoods and communities of color.

Community Resiliency

The Community Resiliency Section of the Fitwel Community Scorecard includes strategies aimed at enhancing equity and promoting community resilience. Strategies in this section include, but are not limited to, demonstrating an economically diverse housing mix, implementing a comprehensive community engagement process, and promoting sustainable community development practices. These strategies are especially important when it comes to supporting the development and maintenance of mixed-income communities.

Emergency Preparedness

The Emergency Preparedness Section of the Fitwel Community Scorecard includes strategies aimed at improving readiness of communities when faced with a range of crises. Strategies in this section include, but are not limited to, establishing and implementing a comprehensive Emergency Preparedness Plan and training local volunteers in emergency preparedness procedures. These strategies are especially important when it comes to communicating vital information to communities who regularly bear a disproportionate burden in times of crisis.



Frequently Asked Questions

How do we know when it will be safe to use transit again?

Just like within office buildings, there is no way to fully eliminate the risk of COVID-19 transmission on public transportation. That said, there are several strategies that can be implemented to help increase the safety of riders and mitigate risk of transmission. While the CDC has recently advised that surfaces are not the main source of transmission, to reduce risk, riders should avoid touching poles. If they must touch poles, riders should, sanitize after touching, or put a sanitizing wipe in between their hand and the pole.⁶³

The greatest risk of transmission is between people in close contact. First and foremost, those with COVID-19 symptoms should avoid public transportation. In addition, whenever possible, riders should do their best to maintain at least 6 feet between them and others. Realizing that on busy public transit systems, physical distancing isn't always possible, masks should be worn. When

worn by a majority of community members, masks have been shown to help mitigate spread of COVID-19. In New York City, the Metropolitan Transportation Authority (MTA) staff will have extra masks for those who forgot or lost theirs on the way to the stations. According to an article from the New York Times, the MTA is also rolling out mask vending machines and hand sanitizing stations across the transit system.⁶⁴

It is also important to note that data out of Japan and France, indicate that public transit may not be as risky as originally suggested. In both countries, where dense cities have begun to re-open, no new COVID-19 clusters were linked to public transit. All that said, in New York City, the MTA staff has suffered more than 100 deaths from COVID-19, and all risk cannot be ruled out at this time. This is an area we are continuing to track, and will update guidance as additional information emerges.⁶⁵

How can existing infrastructure in urban areas be leveraged to reduce overcrowding?

As a growing number head back to work, diversifying methods of travel will become increasingly important. In Europe, the expansion of cycling networks and infrastructure has been found to have a significant impact on cycling rates. One study has shown that in certain cities, expanding the bicycle network has the potential to increase the proportion of cycling to 24.7% of the modal share. This means that 24.7% of all transportation would be by bike. If all cities were to achieve this cycling modal

share, predictions indicate that more than 10,000 premature deaths could be avoided.⁶⁶ These numbers were based on a model developed before COVID-19, and the benefits of increasing accessibility of active transportation is only expected to grow as the economy begins to reopen. By diversifying transportation options, cities have an opportunity to decrease crowding on public transit, which has the potential to significantly reduce transmission.

What is the role of the real estate industry in addressing disparities?

By committing to creating a more equitable built environment, the real estate industry has the opportunity to create a more resilient economy and have a significant impact on population health. The onset of COVID-19 has shown us all how fragile our economy can be and the interconnected nature of today's world. An expanding body of research indicates that social equity can contribute to economic growth by increasing productivity.⁶⁷ The real estate industry plays a central role in the equity of a community, and can facilitate access to quality, affordable housing, outdoor spaces, and other health-promoting amenities.

In addition, as the ESG market grows, investing in social equity can have huge financial benefits. Over the past decade, assets tied to ESG strategies have grown exponentially, with research indicating that MSCI ESG indices have been outperforming others, with most of the growth being seen in those indices that hold oversize allocations towards the healthcare and technology sectors.⁶⁸ While the ultimate impact COVID-19 has on the markets is yet to be determined, some predict continued growth within the ESG sector as many strive to enhance stakeholder trust, increase stability, and improve corporate image.⁶⁹

What steps can be taken to mitigate the disproportionate impact COVID-19 is having on the senior population?

According to data from the CDC, in the United States, more than 80% of those who died from COVID-19 were 65 or older.⁷⁰ In addition, as of May 2020, one-third of all COVID-19 deaths were among nursing home residents and workers.⁷¹ This disproportionate impact can be partly attributed to the heightened levels of comorbidities among elderly populations. While some of these conditions are unavoidable, creating environments designed to prevent chronic disease, can help support long-term health and better prepare older adults to fight off acute conditions, like COVID-19. That said, acute conditions, such as coronavirus and the flu, do tend to disproportionately impact the elderly despite our best efforts.

In response to COVID-19 there are many steps that communities can take to better protect their seniors from the short-term and more long-term impacts of COVID-19.

Within those residential spaces where older adults live, tactics aimed at mitigating viral transmission should be implemented. These include, enhanced ventilation and filtration practices, increased cleaning, proper personal protective equipment, and signage encouraging adherence to social distancing measures and personal hygiene practices. As for long-term health, steps must be taken to provide seniors with access to opportunities for social engagement. Elderly populations, who already experience high rates of social isolation and loneliness, have been increasingly cut off from friends and family members to protect against further accelerating the spread of COVID-19.⁷² To minimize long-term health repercussions associated with the COVID-19 among the elderly, steps must be taken to support community engagement, even if that engagement can't happen in-person.

This resource is designed to contribute to the ever-evolving conversation around how buildings can support the fight against COVID-19. We will continue to review new research as it emerges and incorporate into our work as appropriate. Please reach out to us at covid19@fitwel.org with any specific questions.

**** Disclaimer:**

- Research on COVID-19 is currently in its very initial stages and new evidence is constantly emerging. New evidence will be added as our team analyzes, and will be incorporated into our messaging.
- Because COVID-19 is such a new disease, many of the research articles included below reference the transmission of other viruses.
- We are contributing to this public health discussion, providing ideas and generating conversation, not necessarily providing foolproof solutions.
- We are continuing to collaborate with thought leaders and discovering the best ways to meet this challenge together.
- None of this should be taken as medical advice, and individuals should consult with their doctors if they are experiencing symptoms of COVID-19.

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