



Safer at Home

Next Phase of Our Strategy
to Combat the COVID-19
Epidemic in Philadelphia

May 29, 2020



Background

Philadelphia residents will long remember the months of March, April, and May 2020. A new virus arrived in the city, rapidly spreading to every neighborhood and to every group of people. The virus sickened tens of thousands of residents and commuters, sent thousands to local hospitals, and killed more than 1,000 Philadelphians. In response, Commonwealth and City officials issued Business Activity and Stay-at-Home Orders that shuttered businesses and organizations, and that sharply curtailed residents' movements. Philadelphians learned about the importance of face coverings, six-foot distancing, and handwashing.

As severe as this epidemic has been, it is clear that the response prevented it from being far worse. The City's Business Activity and Stay-at-Home Order caused daily case counts to plateau and then fall, prevented hospitals from becoming overwhelmed, and by some models, saved thousands of lives. Philadelphia now faces the next phase of the epidemic response—scaling back restrictions on social and business activities in a way that prevents resurgence of the epidemic.

On May 22, 2020, Pennsylvania Governor Wolf announced that effective June 5, Philadelphia County would be permitted to ease movement and business restrictions consistent with the "Yellow" phase in his Process to Reopen Pennsylvania. This document is a strategy for how Philadelphia will approach the easing of these movement and business restrictions while continuing to suppress the spread of the virus.

Impact and Progress

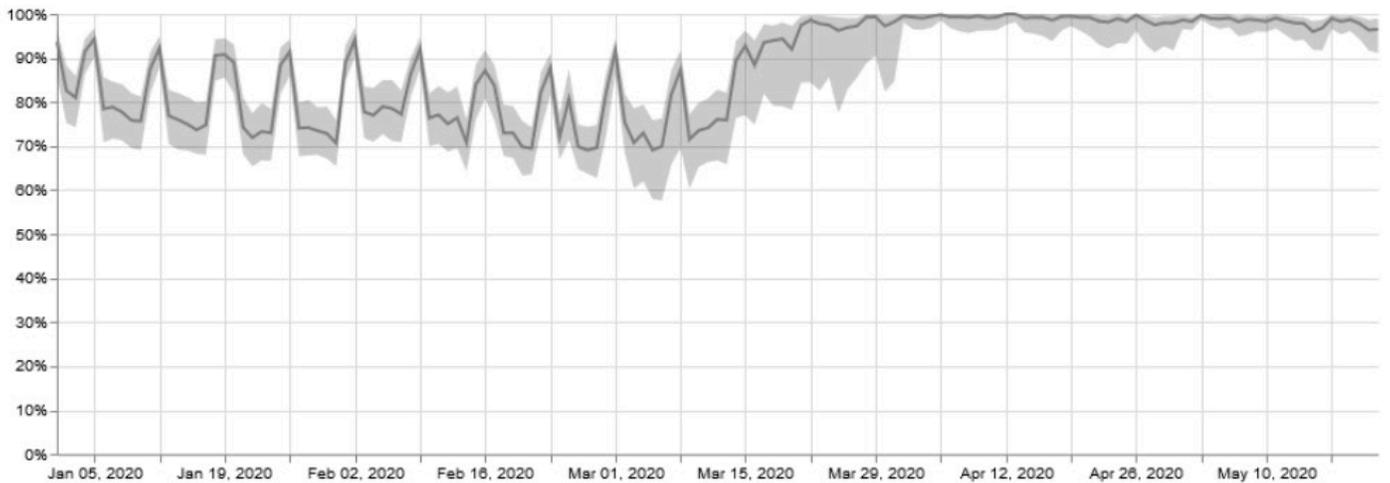
Philadelphia has used many sources of data to measure the impact of COVID-19 on residents, determine which residents were at greatest risk, evaluate the effectiveness of the response, and guide decision-making.

As of May 23, 2020, there were 21,234 Philadelphia residents with confirmed COVID-19 infection. It is likely that far more residents had the infection without the virus being detected. Of those with confirmed infection, 1,233 (5.8 percent) died from COVID-19. While infection rates were evenly distributed among adults of all ages, fatalities were far more common among older adults, with 69 percent of deaths occurring in those over age 70, and 88 percent of deaths occurring in those over age 60. People living in nursing homes were at the greatest risk; of the 1,233 Philadelphia residents who died from the COVID-19 infection, 654 (53 percent) lived in long-term care facilities.

To reduce the spread of COVID-19, schools were closed in Philadelphia on March 13, most businesses were closed by March 17, and a statewide stay-at-home order was issued on March 22. These changes were followed by increases in the time each day Philadelphians spent at home from 75 percent before the stay-at-home order to 95 percent, according to cell phone-generated data provided by SafeGraph.

Philadelphia must approach Phase 2 of the COVID-19 epidemic in a way that balances the risks of the virus with the public health risks caused by further social and economic damage from movement and business restrictions.

Percent of time spent at home in Philadelphia



According to cellphone data analyzed by Google, after the stay-at-home order there was a greater than 60 percent decrease in time spent in retail stores.

These restrictions on movement and interactions among people caused the epidemic to subside. The epidemic began in early March and peaked in mid-April, approximately four weeks after the business closures, during which more than 500 people per day were diagnosed with the COVID-19 infection. By the third week of May 2020, case counts had fallen to approximately 200 per day.

Workplace

-44% compared to baseline



Residential

+14% compared to baseline



Retail and recreation

-61% compared to baseline



Transit stations

-61% compared to baseline



Grocery and pharmacy

-32% compared to baseline

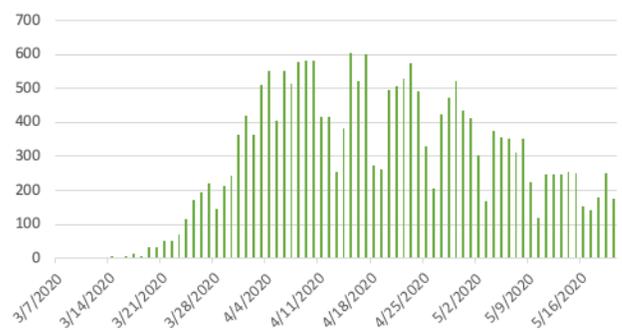


Parks

-68% compared to baseline



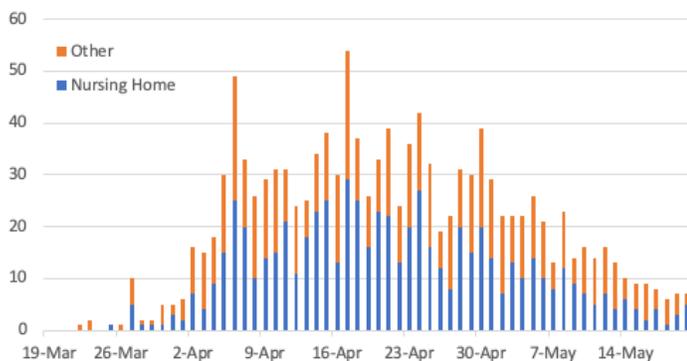
Confirmed cases of COVID-19 infection



Approximately ten days after the peak of the community-wide epidemic, the number of patients with COVID-19 infection receiving inpatient care at Philadelphia hospitals peaked, putting some hospitals under strain and prompting some hospitals to open surge-space beds and transfer patients to other facilities. However, by May 22, 2020, the number of patients with COVID-19 infection in Philadelphia hospitals had fallen more than 45 percent from the peak on April 27.

Deaths from COVID-19 infection peaked in the third week of April, both in the community and in nursing homes, and have fallen substantially since then.

Deaths in Philadelphia residents from COVID-19



Risks

Despite this remarkable progress, COVID-19 has the potential to infect and kill many more Philadelphia residents and commuters. A reasonable estimate is that as of late May, 10 percent of people in Philadelphia have been infected by the virus, leaving the other 90 percent vulnerable. The COVID-19 virus remains unchanged in its potential to spread widely throughout the community, strain the hospital system, and cause spikes in death. An effective vaccine is likely at least 18 months away from widespread use. The city of Philadelphia is therefore just as vulnerable to a new epidemic of COVID-19 in June as it was in March. If residents and commuters resume pre-epidemic social activities and businesses operate using unsafe practices, this region will experience a new and potentially larger wave of infections, hospitalizations, and deaths.

At the same time, the economic and social consequences of the stay-at-home order are significant. New unemployment claims in Philadelphia rose nearly tenfold from the week of March 14 (16,537) to the week of May 2 (155,983).¹ There are well-known adverse health consequences to unemployment and poverty; mortality rates are substantially higher and life expectancy shorter in people who are unemployed or have lower incomes.

Objectives

Philadelphia must approach Phase 2 of the COVID-19 epidemic in a way that balances the risks of the virus with the public health risks caused by further social and economic damage from movement and business restrictions. The path forward must be solidly based on science, available evidence about how the virus behaves, and a cautious approach that acknowledges the many things we do not yet know about this virus. South Korea has suppressed the virus with a combination of moderate social distancing steps, rapid case identification, contact tracing, and other case containment activities. This country's successful approach serves as a good model for Philadelphia.

This is a strategy for Philadelphia for the next phase of epidemic control that allows economic and social activity to resume in a way that continues to suppress the COVID-19 virus. The strategy combines three actions: Containment, Social Distancing, and Protecting Vulnerable Populations. Because there are constant changes to the groups of people infected by the virus, the biomedical tools to prevent and treat it, and the behavior of Philadelphians, this strategy is likely to be modified as it is implemented in the coming months.

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¹Data from Pennsylvania Department of Labor and Industry, including new and continuing claims. <https://www.workstats.dli.pa.gov/dashboards/Pages/Weekly-UC.aspx>

Containment

Containment involves a combination of:

Case identification

Case isolation

Contact tracing

Contact quarantine and monitoring

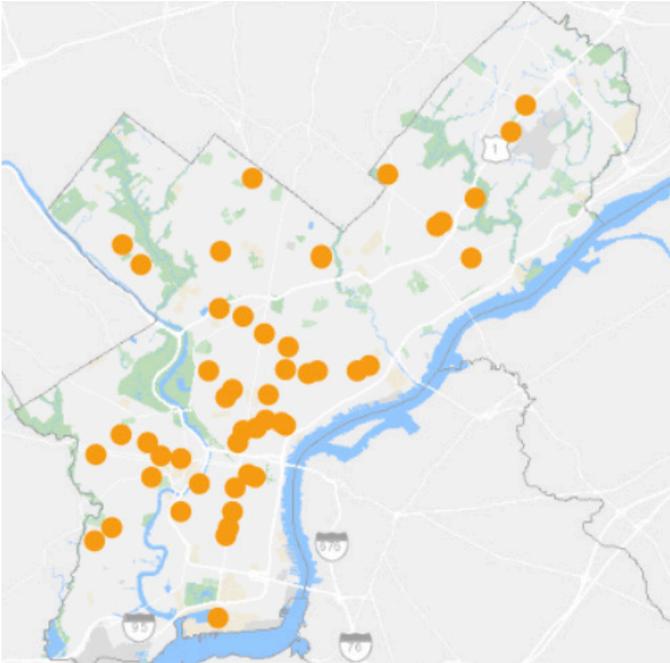
The COVID-19 virus has vulnerabilities. The incubation period (the time from exposure to symptom onset) for most people with infection is four to six days but can be up to 14 days. This is long enough to take action to prevent further spread. And while many people with the infection show no symptoms, a significant proportion are symptomatic with fever and new onset of cough, so many cases can be identified. While no public health actions can prevent spread from all cases, these vulnerabilities suggest that containment actions can be partially successful in reducing community spread. Containment involves a combination of rapid case identification, case isolation, contact tracing, and contact quarantine.

Case identification through widespread laboratory testing

COVID-19 cases can be identified through laboratory testing of individuals with COVID-19 symptoms, and/or those with reasonable suspicion of exposure. From June through August, Philadelphia will implement large-scale, rapid testing (i.e. results in 24 hours or less) to quickly identify new "cases" (people with confirmed COVID-19 infection). Testing is currently available at 47 sites across Philadelphia, including hospitals, Federally Qualified Health Centers, pharmacies, and urgent care centers, at no out-of-pocket cost to residents, and the number of sites will be expanded to under-served neighborhoods. Testing will also be offered through outreach to populations suffering a disproportionate impact (e.g., African Americans) and vulnerable populations, such as individuals experiencing homelessness and those living in congregate settings. Any resident with fever or respiratory symptoms or with exposure to a known or suspected case of COVID-19 infection will be actively encouraged to be tested. As point-of-care testing devices become more reliable and widely available, they will be deployed to testing sites so that results can be reported in hours instead of the following day. Positive tests will be reported to the Philadelphia Department of Public Health by testing sites and laboratories quickly to so that case isolation and contact tracing can begin without delay.



47 testing sites in Philadelphia as of May 23, 2020



Case isolation

People with the infection will be asked and provided with instructions to self-isolate for at least 10 days after the onset of symptoms to prevent the spread of the virus to others. [Note that this time period differs from the 14 days of quarantine for those exposed.] The City, working with other providers, will offer support as needed (for example, meals) for those who isolate at home and identify safe isolation accommodations for those who cannot safely isolate at home.

Contact tracing

To prevent further spread, the Department of Public Health will work with testing sites and health care providers to quickly identify people who may have been in close contact to individuals with the infection ("contacts"). Following notification of a positive test in a person (the "case"), Department of Public Health representatives or designees will interview the case to identify their contacts, including asking questions about whom they live with, with whom they work, and what locations they have visited. Staff will also work with the employer and any locations visited while the case was able to spread the virus to identify additional contacts. This may be supplemented by electronic information

from cell phones, such as using tools under development by Apple and Google that can help identify people that were exposed but unknown to the positive case. The Department of Public Health will also be notified of residents from Philadelphia who are in contact with cases outside the city and need to be monitored.

Contact tracing staff will counsel contacts about their risk and need for quarantine and will connect them to testing and other supports as appropriate. Contact tracing involves disclosure of information that is ordinarily kept private. Because of the importance of privacy, as well as the need to work with health departments from neighboring jurisdictions, contact tracing will be coordinated centrally by the Department of Public Health. For contact tracing to succeed, staff carrying out the work must be sensitive to the needs of those they are interviewing, and people with the infection must be comfortable with the staff; for this reason, the Department of Public Health will hire staff that are representative of the subgroups and communities from which the cases they are interviewing arise.

Contact quarantine and monitoring

Medium- and high-risk contacts (those who have spent more than 10 minutes in proximity to the case during the case's infectious period) will be asked to quarantine at home and monitored daily for 14 days after the last known exposure; low-risk contacts (those who spent fewer than 10 minutes near the case) will be advised to monitor their symptoms without quarantine. All people in quarantine will be contacted daily to ensure that they are following instructions to avoid contact with others, to determine if they have developed any symptoms, and to help them receive testing or medical care. The Department of Public Health, working with other providers, will offer needed support (for example, meals) for those who need to quarantine at home and identify safe accommodations for those who cannot safely quarantine at home.

Social Distancing



Gradual approach to reopening

As conditions warrant, Philadelphia will allow some businesses and activities that were considered non-essential during the stay-at-home order to restart. Lower-risk activities will be permitted first, and if the epidemic remains suppressed and hospital capacity remains adequate, medium- and higher-risk activities will subsequently be permitted. If viral activity rises, higher-risk activities will remain prohibited and certain activities that had been allowed to restart will be prohibited again.

The risk of different businesses and activities will be assessed based on the potential for transmission of COVID-19, the number of people who could become infected, and the likelihood of fatalities, considering the following factors:

- The number of people potentially or likely to be present in a setting or activity;
- The feasibility of restricting or limiting access to reduce crowd sizes;
- The frequency of face-to-face interactions conducted within six feet;
- The number of prolonged (> 10 minutes) face-to-face interactions;
- Whether interactions take place in a confined interior space;
- The feasibility of installing barriers to prevent transmission;
- The feasibility of use of face masks in the activity; and
- The number of vulnerable (i.e. older or chronically ill) people potentially exposed.

Below are examples of activities organized by risk profile, taking these factors into account, together with the approximately-corresponding phase in Governor Wolf's [Process to Reopen Pennsylvania](#).

This is not an exhaustive list of permissible businesses and activities. Additional specifications of which activities will be permitted will follow later.

Risk of Activities	Examples of Activities Permitted in Philadelphia	Corresponding Phase in Governor's Plan
[Determined essential in stay-at-home order]	<ul style="list-style-type: none"> • Health care • Pharmacies • Groceries • Restaurants (carryout and delivery only) • Construction and repair • Transportation 	Red
Lower	<ul style="list-style-type: none"> • Restaurants (food trucks and walk-up ordering) • Retail businesses (with restrictions; curbside and delivery strongly encouraged) • Childcare centers • Outdoor youth day camps and recreation • Outdoor parks-related amenities • Office-based businesses (telework whenever feasible) • Consumer banking • Automobile sales • Real estate activities • Manufacturing • Warehouse operations 	Yellow
Medium	<ul style="list-style-type: none"> • Small social and religious gatherings • Outdoor group recreational activities (adults) • Schools • Personal services such as salons, barbers, and spas • Gyms and indoor exercise classes • Museums and cultural institutions • Indoor shopping malls • Restaurants (dine-in, with limited occupancy and other restrictions) 	Green
Higher	<ul style="list-style-type: none"> • Restaurants (no occupancy limits) • Casinos • Conventions, conferences • Large social and religious gatherings • Large events (sports, concerts, movies, entertainment) • Senior services (Parks & Recreation facilities, adult daycares, etc.) 	

Continued precautions

As they restart, businesses and services will be asked, and in some instances required, to follow a Safe Mode of operations to prevent spread of COVID-19, which is detailed in a separate set of guidelines. Safe Mode will include a Safety Checklist of precautions tailored to the specific activity and setting, but containing these common eight elements:

Safety Checklist



Masks

Block the virus from spreading from infected individuals by wearing masks and requiring others to wear them.



Barriers

Use sneeze guards or plexiglass screens to prevent respiratory droplets expelled by infected persons from reaching others.



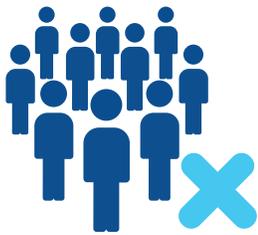
Isolate

Keep people who might be carrying the virus safely away from others (ideally at home).



Distance

Maintain space between people to reduce the chance that one infected individual will infect others.



Reduce Crowds

Decrease the number of people that an infected person could pass the virus to if other steps are not successful.



Handwashing

Reduce the spread of virus from one person to another from touching contaminated surfaces.



Clean

Remove respiratory droplets that may contain virus from surfaces that people may touch.



Communicate

Ensure staff, customers, and others taking part in permitted activities understand this Safety Checklist.

While some elements of the Safe Mode guidance will be strong recommendations, others will be required, as specified in a Mayoral Executive Order.

Moving from Stay-at-Home to Safer-at-Home

While the Governor’s Yellow Phase calls for the suspension of stay-at-home orders, the Department of Public Health will continue to advise city residents that they are “safer at home,” and should only leave to engage in essential activities. This is true for all city residents, and even more so for Philadelphia residents who:

- are 65 years old or older;
- have certain health conditions (such as asthma, chronic lung disease, heart conditions, diabetes, severe obesity, chronic kidney disease, liver disease, or a compromised immune system);
- live with or care for someone who is 65 years old or older, or has health conditions.

Philadelphia residents will be encouraged to socialize remotely and minimize social contact as much as possible. The Department of Public Health will also be strongly advising city residents against participating in social gatherings of any size during the Yellow Phase.

Metrics for assessing progress

Decisions about whether the above activities may restart will be based on metrics that indicate the likelihood that the virus will resurge and the capacity of the health care and public health systems to respond if it does. While the Department of Public Health will track and consider many metrics, the key metrics are listed below, along with current values of these metrics and goals for them. Restarting activities will depend not necessarily on meeting those goals but instead on continued progress toward them.

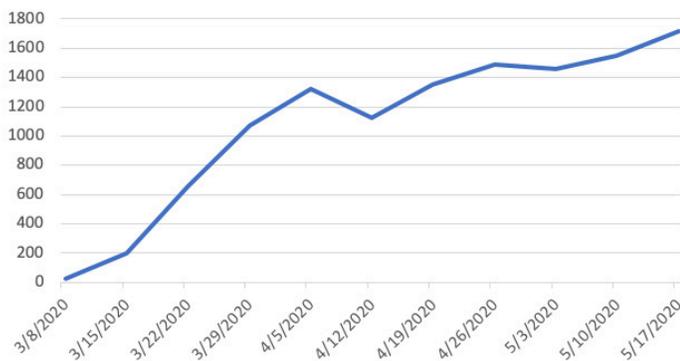
Factor Measured	Metric	As of May 23	Goal
Presence of virus	Confirmed case counts	200 per day	<25 per day
Reproductive rate of virus	Trend in case counts (7-day moving average)	Decreasing for 4 weeks	Decreasing for 8 weeks
Adherence to guidance	Mask use in interior public settings	Unknown	To be determined
Effectiveness of containment	Number of test sites	47	75
	Number of tests performed	1,700 per day (3.2% per month)	5,000 per day
	Percent of cases* interviewed	~20%	95%
	Percent of contacts* reached and agreeing to quarantine	~15%	75%
Health care system capacity	Number of COVID-19 hospital inpatients compared to peak	47% below peak (537 patients)	>75% below peak (<250 patients)
Effectiveness of protections for vulnerable populations	Cases in nursing home residents	~10 per day	0 per day

*Excluding cases and contacts in congregate settings

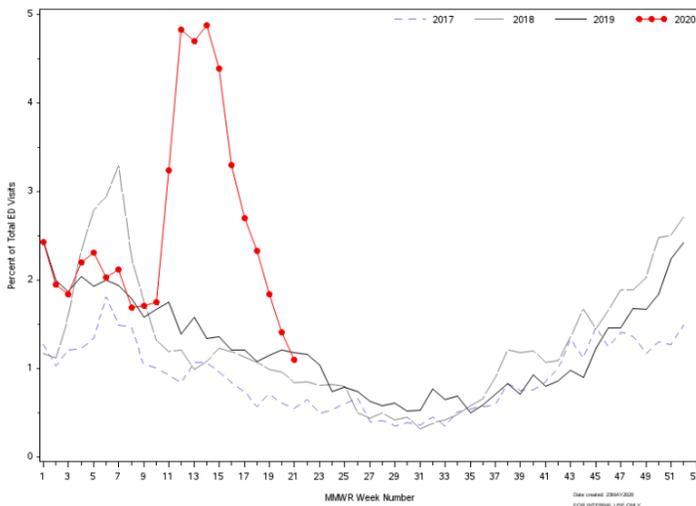
Early warning systems

In addition to monitoring the metrics above, the Department of Public Health will follow two early warning systems to identify surges in COVID-19 infections, which will be used to reinstitute activity restrictions if necessary:

Average number of tests conducted per day



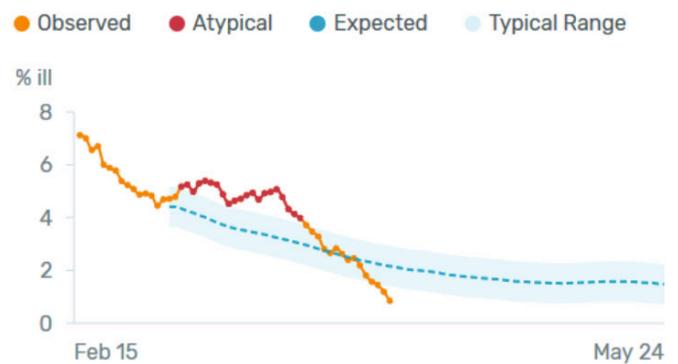
Time-series of the COVID-like syndrome by year



- **“Syndromic surveillance.”** This system identifies the number and percent of people seen in hospital emergency departments in Philadelphia with symptoms possibly reflecting COVID-19 disease, whether or not they are tested. A retrospective analysis of data from this system shows a large spike of COVID-like syndromes consistent with the COVID-19 epidemic, beginning in the first week of March and continuing through the third week of May.

- **Internet-connected thermometers.** Thermometers sold by Kinsa provide information to a centralized database. An increase in the percent of temperatures that reflect fevers in residents would be an indicator of a resurgence of COVID-19 infection. This system showed an abnormal number of fevers in the Philadelphia region beginning in early March. The Department of Public Health will distribute additional thermometers to Philadelphia residents and work with Kinsa to obtain the data for Philadelphia to monitor for similar increases.

Percent of persons with fevers as measured by internet-connected thermometers, Philadelphia Region



Protecting Vulnerable Populations

Some residents of Philadelphia are at greater risk for infection or for severe disease than others. Members of racial and ethnic minorities have higher rates of recognized infection and severe infection than Caucasians, likely related to longstanding social disadvantage. People who live in congregate settings are at greater risk for infection, and those who are elderly or have chronic medical conditions are greater risk for severe disease if infected. In Phase 2, Philadelphia will emphasize protections for these disproportionately vulnerable populations.

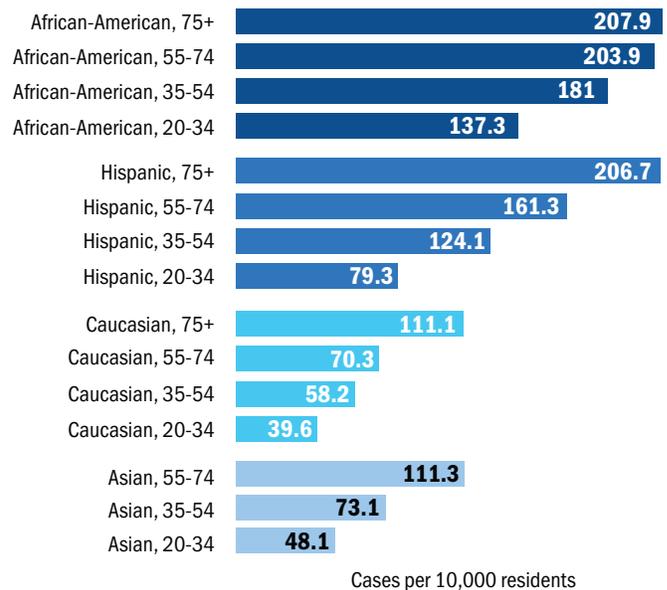
In response, the Department of Public Health will develop and release a COVID-19 racial equity plan that will include actions to address:

- Improving completeness of surveillance data;
- Access to testing;
- Community outreach;
- Addressing chronic health conditions that increase the severe COVID-19 disease;
- Protecting essential workers;
- Preventing community spread; and
- Preventing spread in congregate settings.

Racial and ethnic minorities

Forty-five percent of people with confirmed infection were known to be African American, 15 percent were Caucasian, 9 percent were Hispanic, 4 percent were Asian, and 23 percent were of unknown race. Rates of recognized infection rose with age, but as shown below, at any age, African Americans and Hispanics were more likely than Caucasians or Asians to have confirmed infection. Mortality rates varied by race, with higher mortality rates among African Americans (9.4 per 10,000 residents) than Caucasians (6.3 per 10,000).

Rates of Confirmed Infection by Race/Ethnicity and Age



Residents of long-term care facilities

Long-term care facility residents are at extremely high risk of developing severe illness from COVID-19 because they live in congregate settings and because of their age and chronic health conditions.

Ill staff and visitors are the most likely sources to spread disease into these facilities. In order to mitigate these risks, the following steps will be taken to prevent introduction of the virus into these facilities and to prevent spread within the facilities if introduced:

- Provision of ample personal protective equipment;
- Requiring masking by staff at all times (universal masking);

- Provision of COVID-19 testing supplies and rapid testing equipment to nursing homes for quick diagnosis of COVID-19 in residents or staff;
- Enforcement of restrictions on visitors and on residents leaving the facilities;
- Screening of nursing home staff at the beginning and end of each shift for fever (with temperature checks) and symptoms consistent with COVID-19;
- Testing of all symptomatic staff and, if cases are detected, testing of asymptomatic staff;
- Promotion of liberal, non-punitive sick leave policies for staff and strongly discouraging staff from working while ill;
- Screening of residents every eight hours for fever and symptoms consistent with COVID-19;
- Immediate isolation and testing of all symptomatic residents and their roommates and, if cases are detected, testing of asymptomatic residents;
- Testing of all new admissions for COVID-19 prior to transfer from acute care hospitals, and isolation precautions for 14 days following admission;
- Cohorting and other infection control actions to prevent spread when cases are detected;
- Use of serologic screening of residents and staff as appropriate to assess risk and guide cohorting; and
- Continued enforcement of restrictions on group activities, and strict enforcement of social distancing, universal masking, and enhanced hand and environmental hygiene as these activities are gradually allowed to resume.

More generally, the Department of Public Health will foster relationships between local hospitals and nursing homes, so that the expertise, staff capacity, and resources available in hospitals can support nursing homes' infection control actions.

Other congregate settings

The Department of Public Health, in conjunction with other City and Commonwealth agencies, will work with other congregate settings, such as homeless shelters, jails, and residential psychiatric and drug and alcohol treatment facilities that house medically vulnerable people to put appropriate protections in place to reduce the likelihood that COVID-19 will be introduced into facilities and prevent spread within the facilities. In addition to congregate living settings, certain work settings maybe at higher risk for spread of virus.

When infection clusters occur in high-risk living settings or work settings. The Department of Public Health will continue to work directly with the people managing these settings to prevent, respond to, and limit these outbreaks. This will include providing personal-protective equipment, offering guidance and training on infection control, testing clients and/or staff, and advising on "cohorting" (separating) infected and uninfected clients and/or staff.

Testing of people for presence of antibodies ("serologic testing") has recently become available and studies that help interpretation of the results of these tests are being published. COVID-19 antibodies appear to be a good marker for past infection and probably indicate protection, at least temporarily, against recurrent infection. The Department of Public Health will conduct antibody testing in some high-risk settings to assess the value of this testing to outbreak control, as well as the value to Philadelphians more broadly.

Shared responsibility for recovery

As Philadelphia and the surrounding region begin to enter a phased reopening, it is on all of us—residents, government officials and agencies, businesses, health care providers, and more—to ensure our city is able to make a full recovery. The City is committed to emerging from this months-long shutdown as quickly as possible, but we need everyone to do what is right and continue following the guidance provided by the Department of Public Health.

It is clear from the Commonwealth's decision to allow Philadelphia County to ease movement and business restrictions consistent with the "Yellow" phase in Governor Wolf's Process to Reopen Pennsylvania that the work of Philadelphians thus far has put us in a much safer position. But we are not out of the woods yet; COVID-19 is still present in our communities and poses a real threat if we don't take things seriously as the city reopens.

To successfully navigate the next phase of our recovery, we need all Philadelphians to embrace the shared responsibility we all have at this critical moment in our city's history.

