COVID-19 HEALTHCARE PROVIDER UPDATE

OCTOBER 16, 2020

# Increases in Community Transmission of COVID-19 in Certain Neighborhoods of New York City

# Overview of SARS-CoV-2 Testing – The Good, The Bad and What to Use When

*Our understanding of COVID-19 is evolving rapidly.*
*This presentation is based on our knowledge as of October 15, 2020, 5 PM.*

# CONTINUING MEDICAL EDUCATION

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# COVID-19 HEALTHCARE PROVIDER UPDATE

OCTOBER 16, 2020

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*Our understanding of COVID-19 is evolving rapidly.*
*This presentation is based on our knowledge as of October 15, 2020, 5 PM.*

# UPDATE: COVID-19 IN NEW YORK CITY

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NYC Health

# OUTLINE

- WHERE WE ARE NOW
- RECENT EPIDEMIOLOGY OF COVID-19 IN NYC
- INCREASES IN COMMUNITY TRANSMISSION OF COVID-19 IN CERTAIN NEIGHBORHOODS OF NEW YORK CITY
- OVERVIEW OF SARS-COV-2 TESTING:
  THE GOOD , THE BAD AND WHAT TO USE WHEN
- QUESTIONS AND DISCUSSION

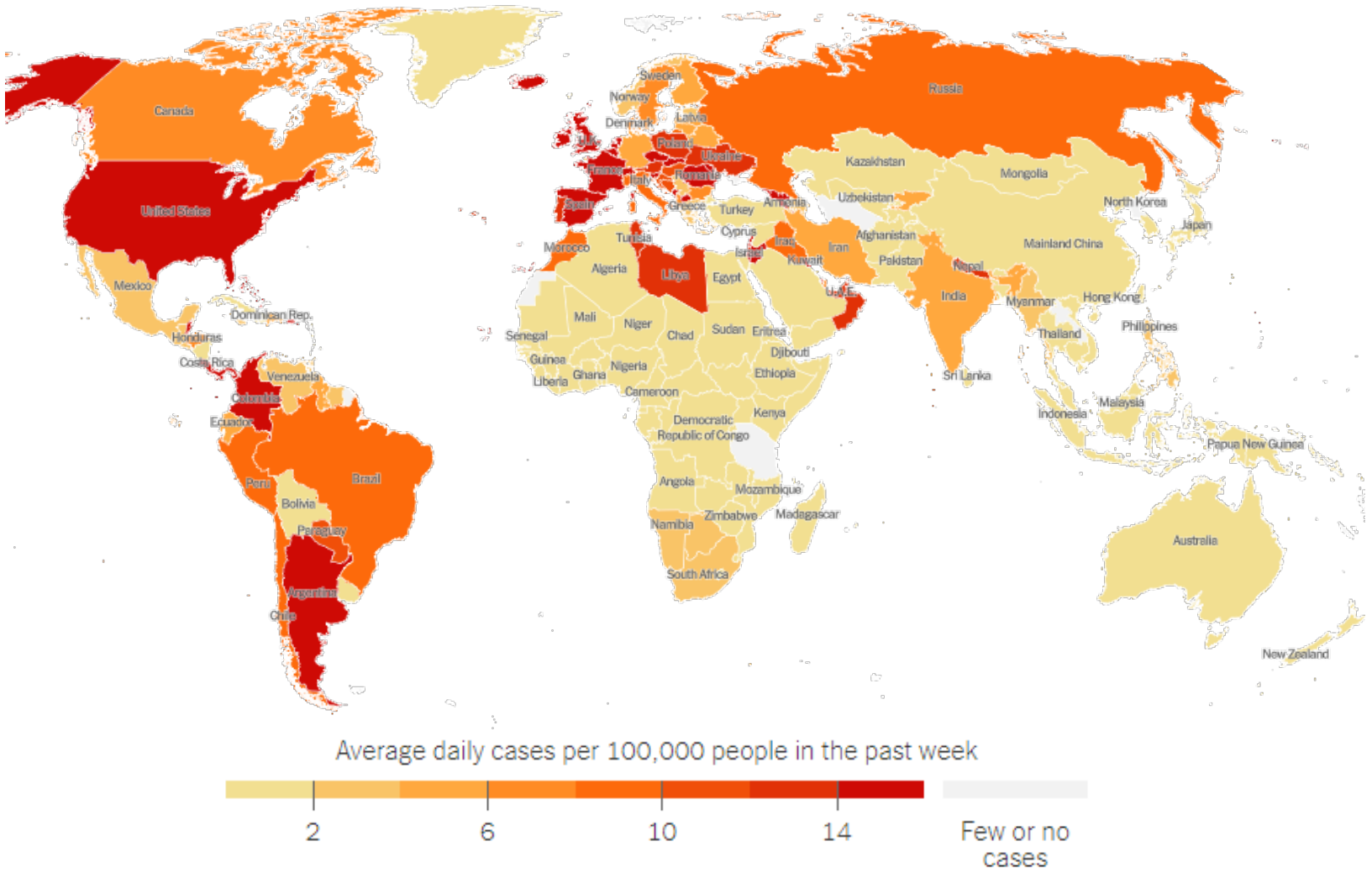
# WHERE WE ARE NOW

- India still has the highest number of daily cases however daily numbers are slowly declining
- New cases in the Americas, especially the United States, Brazil, and Argentina are fueling much of the global daily increase
- Second surge in European countries also continue to add large numbers to the daily global total
- Cases are on the rise in the United States
- A concerning increase in case counts has been observed in certain NYC areas, though citywide test positivity remains <2%
- Three areas in NYC have been designated by New York State as requiring restrictions on school attendance, businesses, and gatherings

# COVID-19 WORLDWIDE

Cumulative:
>38.7 million cases
>1 million deaths

10/15/20

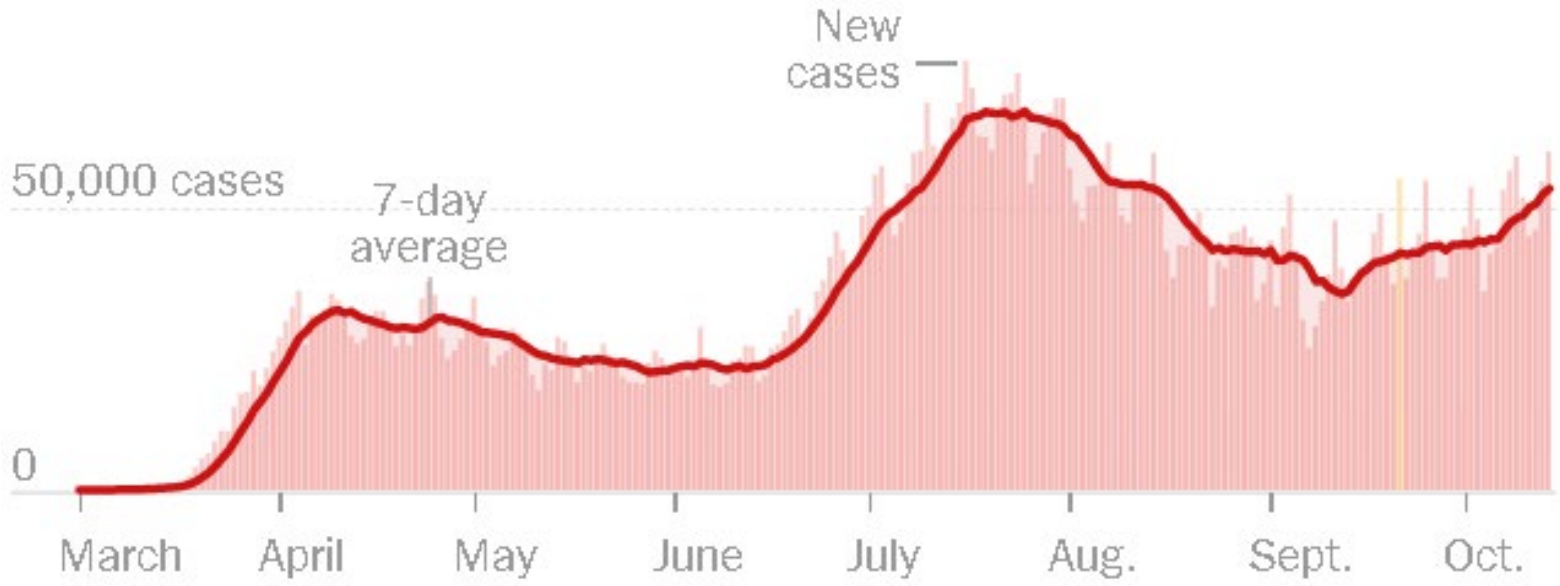


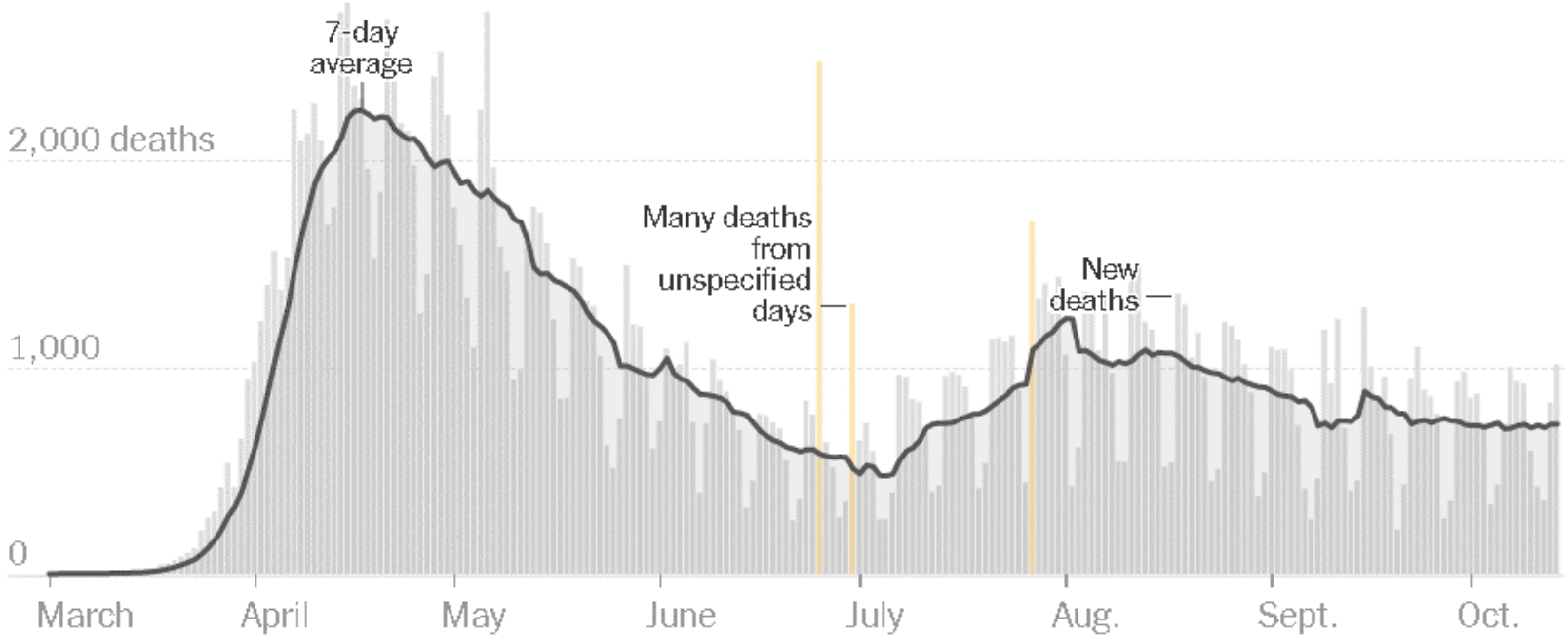

*New York Times.* Coronavirus map: tracking the global outbreak.
https://www.nytimes.com/interactive/2020/world/coronavirus-maps.html

# COVID-19, U.S.

Cumulative:
>8 million cases
>217 thousand deaths

10/15/20

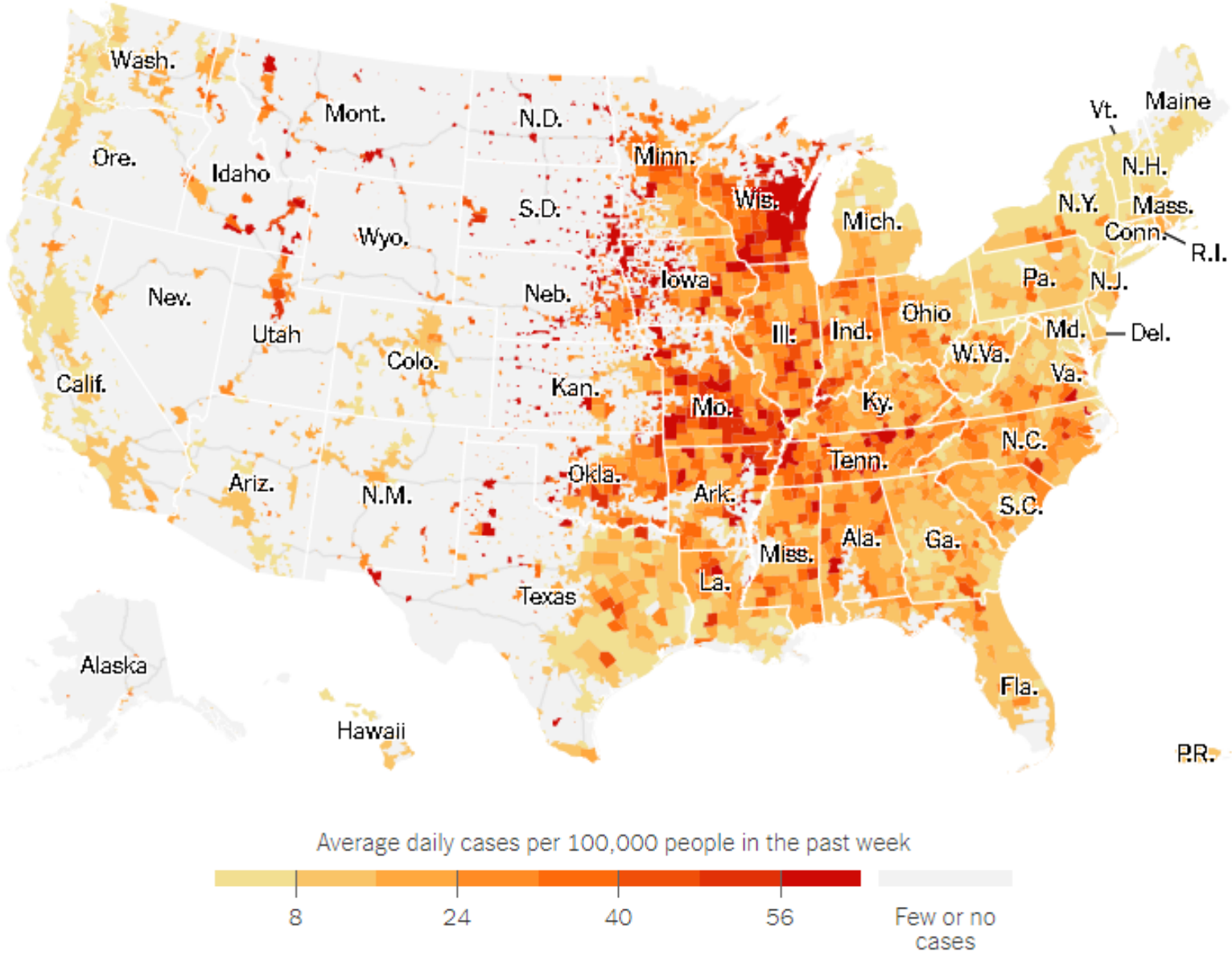



*New York Times.* Coronavirus in the U.S.: new reported cases and deaths.
https://www.nytimes.com/interactive/2020/us/coronavirus-us-cases.html

# NEW CASES IN THE PAST WEEK, U.S.

10/15/20




*New York Times.* Coronavirus in the U.S.: latest map and case count.
https://www.nytimes.com/interactive/2020/us/coronavirus-us-cases.html

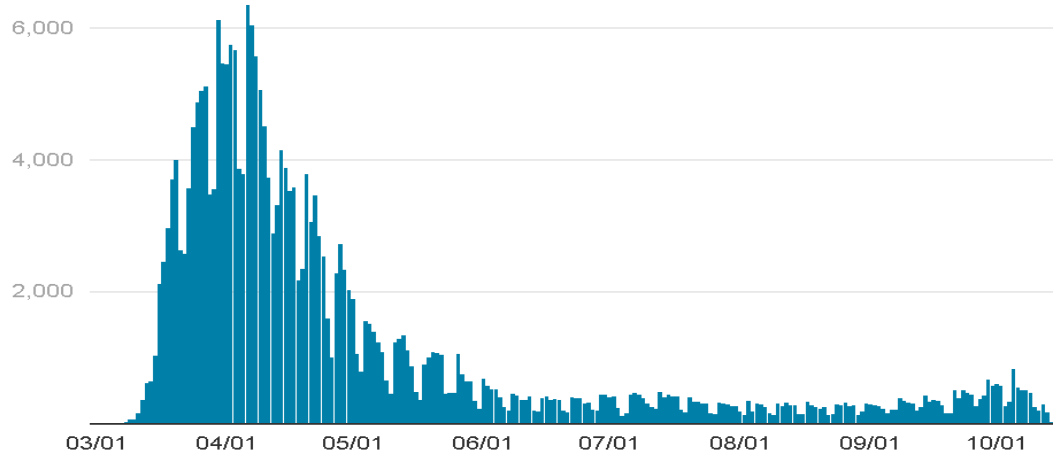
# COVID-19, NYC
## 10/15/20

Cumulative counts:

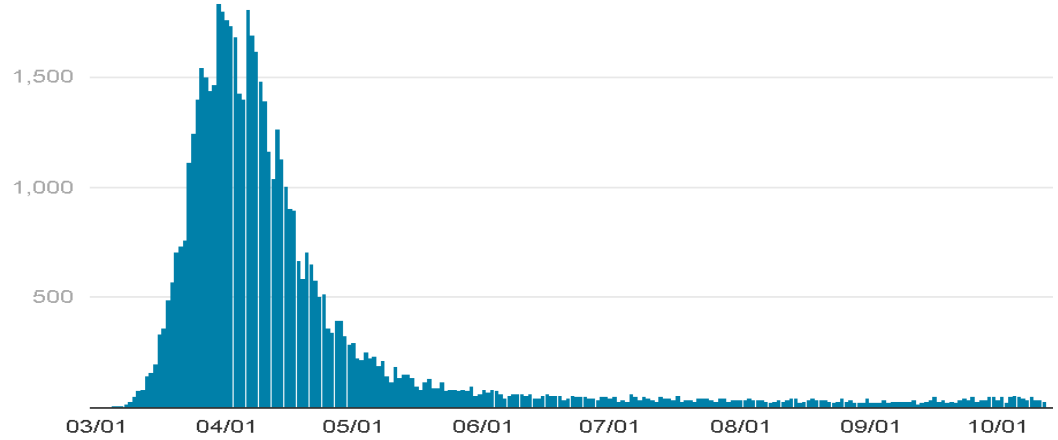
- Cases: 246,836
- Hospitalizations: 58,059
- Confirmed deaths: 19,264
- Probable deaths: 4,651

Figures show number of daily COVID-19 cases, hospitalizations, and deaths

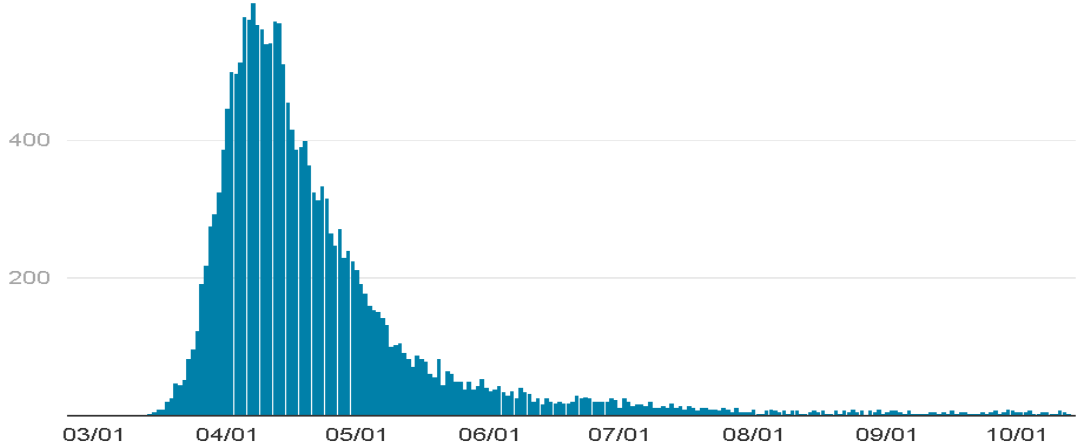
CASES




HOSPITALIZATIONS

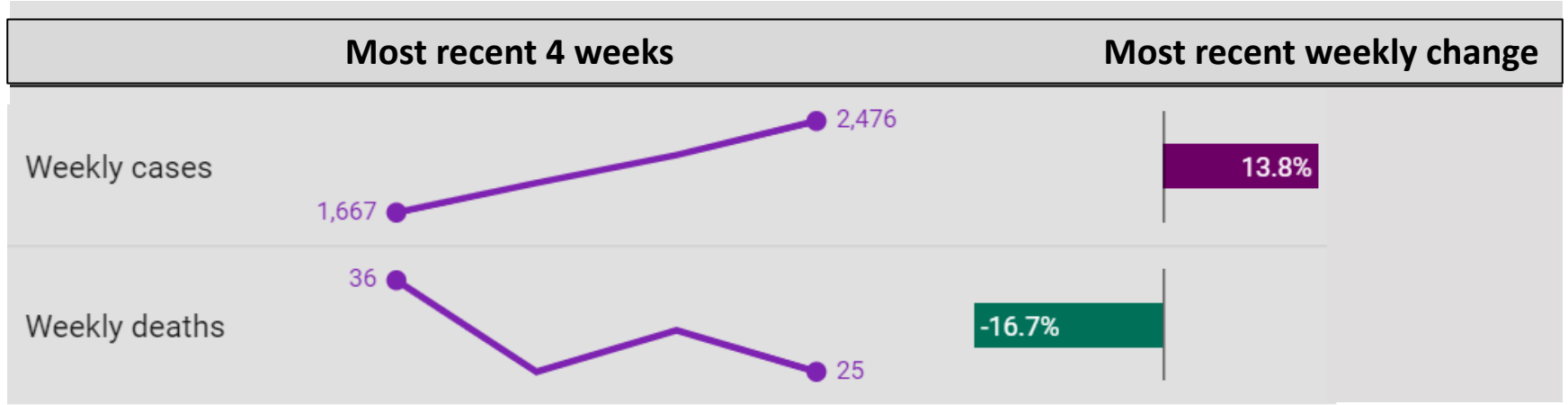



DEATHS

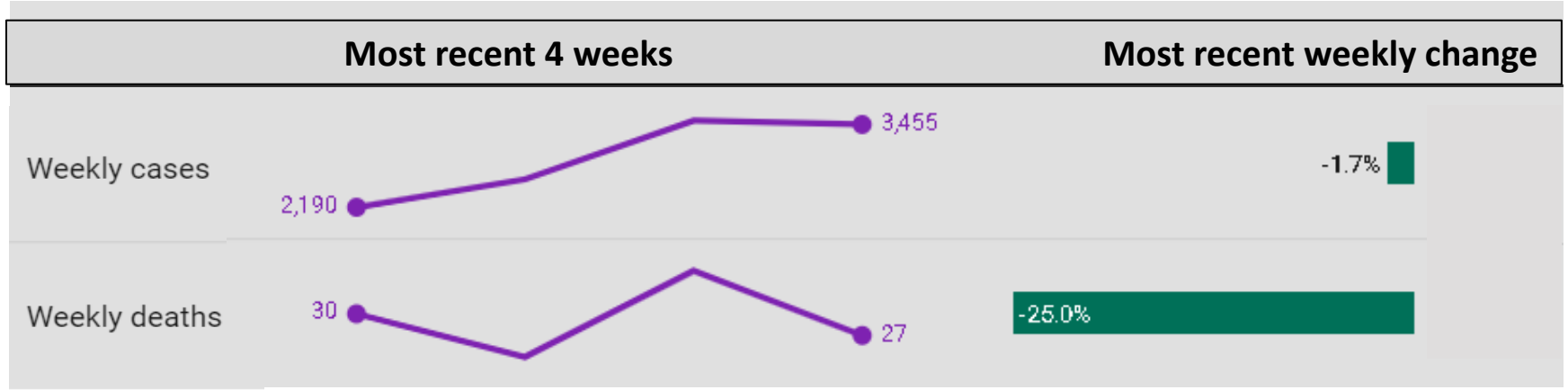



NYC Health Department. COVID-19: data.
https://www1.nyc.gov/site/doh/covid/covid-19-data.page

# RECENT NYC CASES AND DEATHS



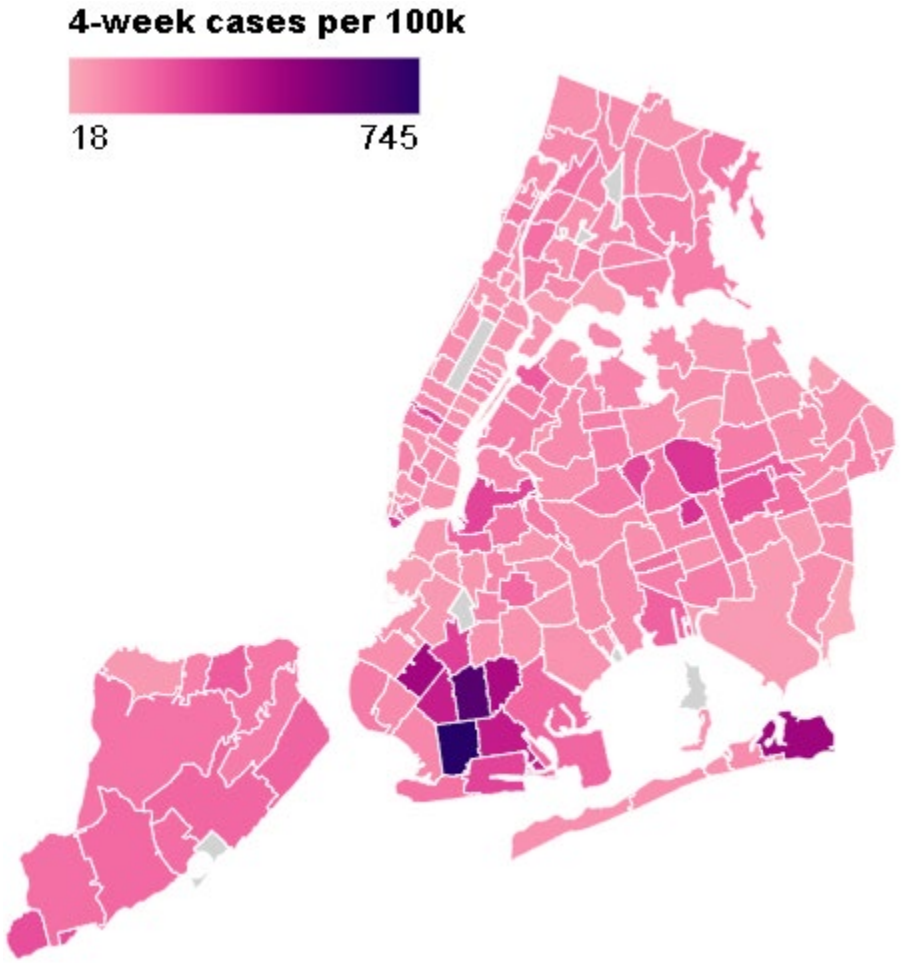

Data shown for the four weeks ending
**September 26, 2020**



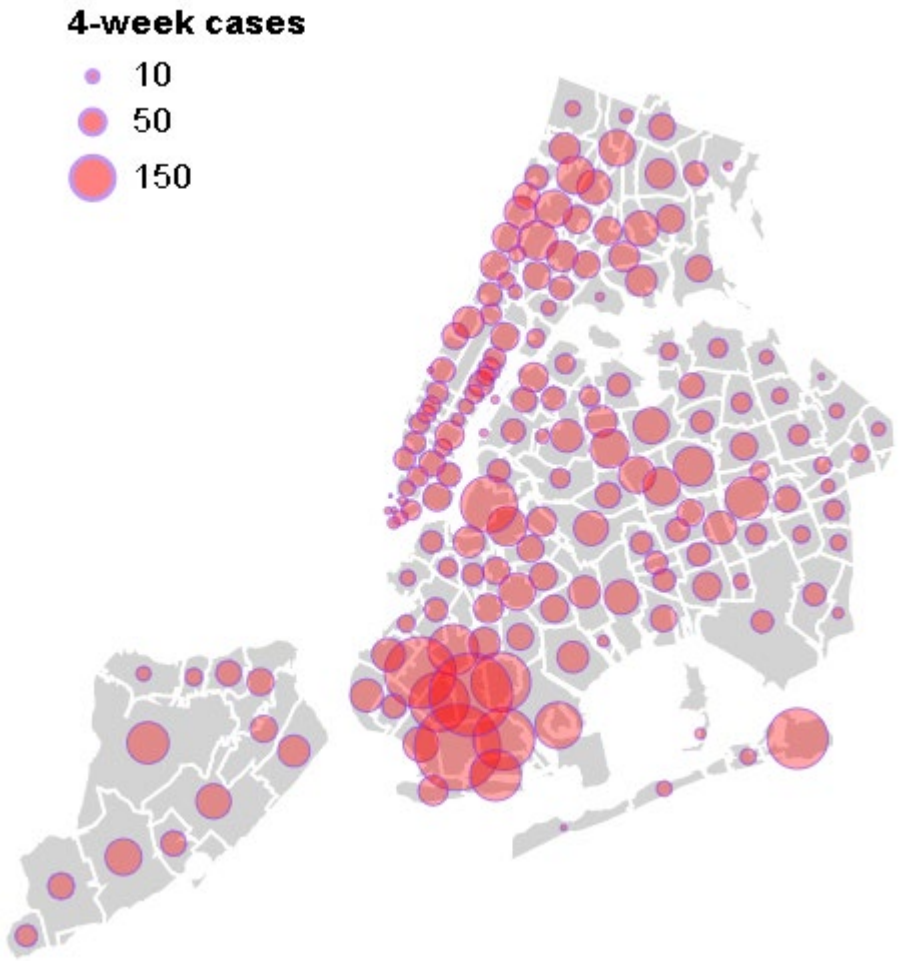

Data shown for the four weeks ending
**October 10, 2020**

NYC Health Department. COVID-19: data. https://www1.nyc.gov/site/doh/covid/covid-19-data.page

# RECENT NYC CASES BY ZIP CODE




CASE RATE




CASE COUNT

NYC Health Department. COVID-19: data. https://www1.nyc.gov/site/doh/covid/covid-19-data.page
Data shown for the four weeks ending October 10, 2020

## CDC SCIENTIFIC BRIEF: SARS-COV-2 & POTENTIAL AIRBORNE TRANSMISSION

Issued October 5, 2020

- Principal mode of COVID-19 transmission is via infectious respiratory droplets
- Respiratory droplets are produced during exhalation (e.g., breathing, speaking, singing, coughing, sneezing)
- Spectrum of droplet sizes divided into two categories based on how long they can remain suspended in air
  - Larger droplets, some of which are visible, fall out of the air within seconds to minutes
  - Smaller droplets and particles can remain suspended for many minutes to hours and travel far on air currents
- Concentration of droplets decreases through fallout and dilution into the growing volume of air they encounter

https://www.cdc.gov/coronavirus/2019-ncov/more/scientific-brief-sars-cov-2.html

## CDC SCIENTIFIC BRIEF: SARS-COV-2 & POTENTIAL AIRBORNE TRANSMISSION

Issued October 5, 2020

- Airborne transmission not equally efficient for all respiratory microbes
- The epidemiology of COVID-19 indicates most infections are spread through close contact, not airborne transmission
- Airborne transmission of COVID-19 is uncommon but can occur under special circumstances; examples include:
  - Enclosed spaces within which an infectious person exposed susceptible people or prolonged exposure to respiratory particles that may be generated with expiratory exertion (e.g., shouting, singing, exercising)
  - Aerosol-generating medical procedures (e.g., intubation, suction of oral or respiratory secretions)
- Existing interventions appear sufficient to prevent transmission of COVID-19 by airborne transmission
  - Interventions include physical distancing, use of face coverings in the community, hand hygiene, surface cleaning and disinfection, ventilation and avoidance of crowded indoor spaces

https://www.cdc.gov/coronavirus/2019-ncov/more/scientific-brief-sars-cov-2.html

# CDC SCIENTIFIC EVIDENCE FOR CONDITIONS THAT INCREASE RISK OF SEVERE ILLNESS FROM SARS-COV-2

Updated October 6, 2020

- Update to the list of underlying medical conditions that put adults of any age at increased risk for severe illness from the virus that causes COVID-19
- Based on published reports, articles in press, unreviewed pre-prints, and internal data
- The list is a living document that will be periodically updated by CDC as the science evolves

https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/evidence-table.html

# CDC SCIENTIFIC EVIDENCE FOR CONDITIONS THAT INCREASE RISK OF SEVERE ILLNESS FROM SARS-COV-2

Updated October 6, 2020

## Strongest and Most Consistent Evidence

- Cancer
- Chronic kidney disease
- COPD
- Heart conditions, such as heart failure, coronary artery disease, or cardiomyopathies
- Obesity (BMI $\geq$ 30 kg/m$^2$)
- Severe Obesity (BMI $\geq$ 40 kg/m$^2$)
- Sickle cell disease
- Smoking
- Solid organ transplantation
- Type 2 diabetes mellitus

## Mixed Evidence

- Asthma
- Cerebrovascular disease
- Hypertension
- Pregnancy
- Use of corticosteroids or other immunosuppressive medications

## Limited Evidence

- Bone marrow transplantation
- HIV
- Immune deficiencies
- Inherited metabolic disorders
- Liver disease
- Neurologic conditions
- Other chronic lung diseases
- Overweight (BMI $\geq$ 25 kg/m$^2$, but < 30 kg/m$^2$)
- Pediatrics
- Thalassemia
- Type 1 diabetes mellitus

https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/evidence-table.html

# CASE SERIES OF MULTISYSTEM INFLAMMATORY SYNDROME IN ADULTS

- Multisystem inflammatory syndrome in children (MIS-C) is a rare but severe complication of SARS-CoV-2 infection in children and adolescents
- Recent publication summarizing adult patients with multisystem inflammatory syndrome in adults (MIS-A) in United Kingdom and US from March to August 2020
- Clinical manifestations of 16 patients:
  - 12/16 had fever
  - 16/16 had evidence of cardiac effects, including electrocardiogram abnormalities such as arrhythmias, elevated troponin levels, or echocardiographic evidence of left or right ventricular dysfunction
  - 13/16 had gastrointestinal symptoms
  - 5/16 had dermatologic manifestations
  - None had severe respiratory illness however 10 had pulmonary ground glass opacities and 6 had pleural effusions identified on chest imaging

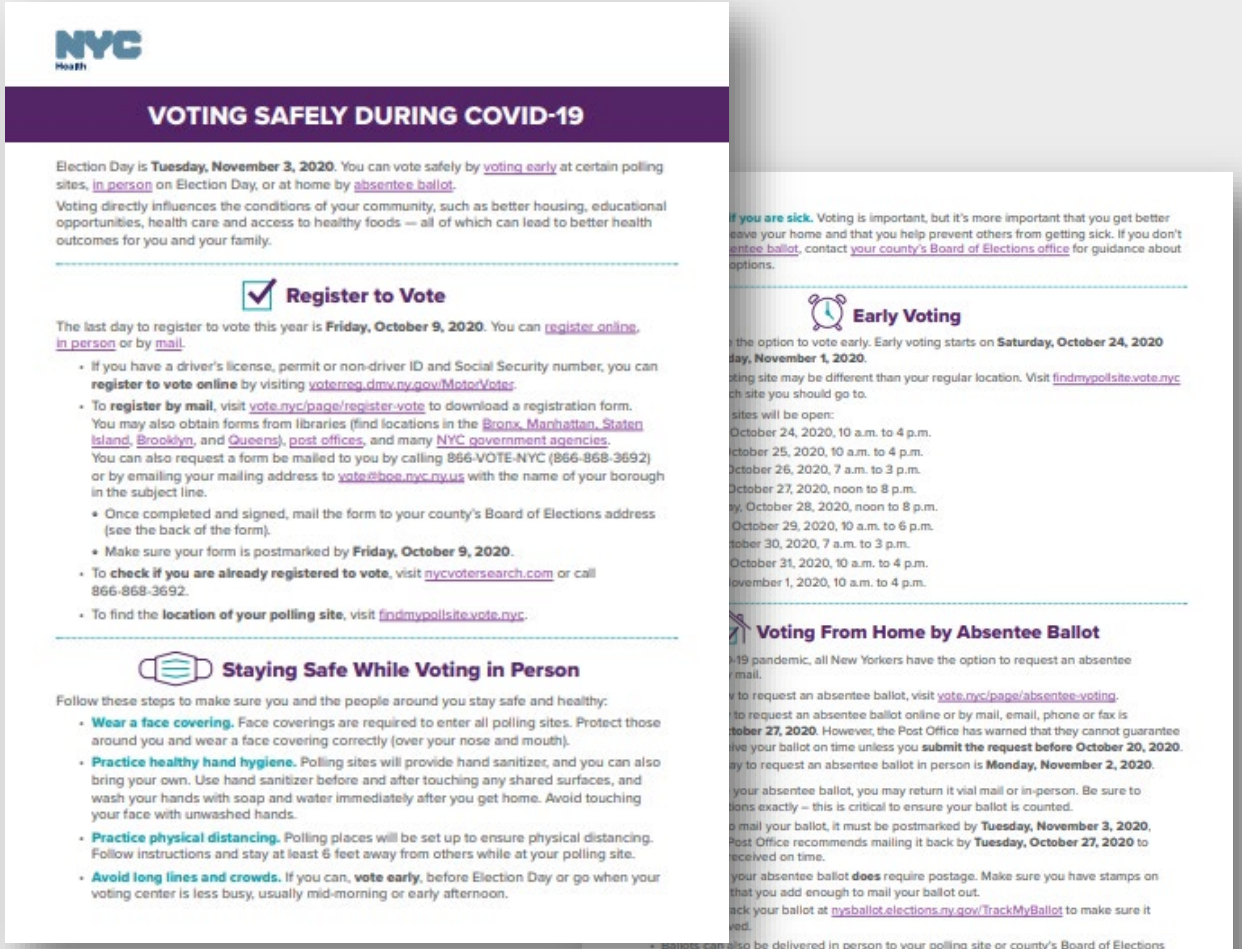
Morris SB, et al. Case Series of Multisystem Inflammatory Syndrome in Adults Associated with SARS-CoV-2 Infection — United Kingdom and United States, March–August 2020. *MMWR* 2020;69:1450–1456. DOI: http://dx.doi.org/10.15585/mmwr.mm6940e1external icon

# CASE SERIES OF MULTISYSTEM INFLAMMATORY SYNDROME IN ADULTS

- The pathophysiology of MIS in both children and adults is currently unknown
- Some patients had a negative PCR but a positive SARS-CoV-2 antibody test result, suggesting MIS-A and MIS-C might represent postinfectious processes
- The majority of patients with MIS-A survived, similar to those with MIS-C
- All but one of the patients with MIS-A described in this report belonged to racial or ethnic minority groups; MIS-C has also been reported disproportionately in these communities
- Further research is needed to understand the pathogenesis, optimal management, and long-term effects of this condition

Morris SB, et al. Case Series of Multisystem Inflammatory Syndrome in Adults Associated with SARS-CoV-2 Infection — United Kingdom and United States, March–August 2020. *MMWR* 2020;69:1450–1456. DOI: http://dx.doi.org/10.15585/mmwr.mm6940e1external icon

# VOTING SAFELY DURING COVID-19



NYC Health

## VOTING SAFELY DURING COVID-19

Election Day is **Tuesday, November 3, 2020**. You can vote safely by voting early at certain polling sites, in person on Election Day, or at home by absentee ballot.

Voting directly influences the conditions of your community, such as better housing, educational opportunities, health care and access to healthy foods — all of which can lead to better health outcomes for you and your family.

### Register to Vote

The last day to register to vote this year is **Friday, October 9, 2020**. You can register online, in person or by mail.

- If you have a driver's license, permit or non-driver ID and Social Security number, you can **register to vote online** by visiting votereg.dmv.ny.gov/MotorVoter.
- To **register by mail**, visit vote.nyc/page/register-vote to download a registration form. You may also obtain forms from libraries (find locations in the Bronx, Manhattan, Staten Island, Brooklyn, and Queens), post offices, and many NYC government agencies. You can also request a form be mailed to you by calling 866-VOTE-NYC (866-868-3692) or by emailing your mailing address to vote@boe.nyc.ny.us with the name of your borough in the subject line.
  - Once completed and signed, mail the form to your county's Board of Elections address (see the back of the form).
  - Make sure your form is postmarked by **Friday, October 9, 2020**.
- To **check if you are already registered to vote**, visit nycvotersearch.com or call 866-868-3692.
- To find the **location of your polling site**, visit findmypollsite.vote.nyc.

### Staying Safe While Voting in Person

Follow these steps to make sure you and the people around you stay safe and healthy:

- **Wear a face covering.** Face coverings are required to enter all polling sites. Protect those around you and wear a face covering correctly (over your nose and mouth).
- **Practice healthy hand hygiene.** Polling sites will provide hand sanitizer, and you can also bring your own. Use hand sanitizer before and after touching any shared surfaces, and wash your hands with soap and water immediately after you get home. Avoid touching your face with unwashed hands.
- **Practice physical distancing.** Polling places will be set up to ensure physical distancing. Follow instructions and stay at least 6 feet away from others while at your polling site.
- **Avoid long lines and crowds.** If you can, **vote early**, before Election Day or go when your voting center is less busy, usually mid-morning or early afternoon.

**f you are sick.** Voting is important, but it's more important that you get better
eave your home and that you help prevent others from getting sick. If you don't
entee ballot, contact your county's Board of Elections office for guidance about
ptions.

### Early Voting

the option to vote early. Early voting starts on **Saturday, October 24, 2020**
**day, November 1, 2020**.
ting site may be different than your regular location. Visit findmypollsite.vote.nyc
ch site you should go to.
sites will be open:
October 24, 2020, 10 a.m. to 4 p.m.
ctober 25, 2020, 10 a.m. to 4 p.m.
October 26, 2020, 7 a.m. to 3 p.m.
October 27, 2020, noon to 8 p.m.
y, October 28, 2020, noon to 8 p.m.
October 29, 2020, 10 a.m. to 6 p.m.
tober 30, 2020, 7 a.m. to 3 p.m.
October 31, 2020, 10 a.m. to 4 p.m.
ovember 1, 2020, 10 a.m. to 4 p.m.

### Voting From Home by Absentee Ballot

-19 pandemic, all New Yorkers have the option to request an absentee
mail.
to request an absentee ballot, visit vote.nyc/page/absentee-voting.
to request an absentee ballot online or by mail, email, phone or fax is
**tober 27, 2020**. However, the Post Office has warned that they cannot guarantee
ive your ballot on time unless you **submit the request before October 20, 2020**.
y to request an absentee ballot in person is **Monday, November 2, 2020**.
your absentee ballot, you may return it via mail or in-person. Be sure to
ions exactly – this is critical to ensure your ballot is counted.
mail your ballot, it must be postmarked by **Tuesday, November 3, 2020**,
Post Office recommends mailing it back by **Tuesday, October 27, 2020** to
eceived on time.
your absentee ballot **does** require postage. Make sure you have stamps on
that you add enough to mail your ballot out.
ck your ballot at nysballot.elections.ny.gov/TrackMyBallot to make sure it
ed.
- Ballots can also be delivered in person to your polling site or county's Board of Elections office on November 3, 2020.

The NYC Health Department may change recommendations as the situation evolves. 10.5.20

Provides information and tips for voting safely during the pandemic, including:

- Requesting an absentee ballot (**October 27** deadline)
- Voting during early voting to avoid crowds on Election Day
- Following the "Core 4" (stay home if sick, wear a face covering, practice physical distancing, practice hand hygiene)

https://www1.nyc.gov/assets/doh/downloads/pdf/covid/covid-19-voting.pdf

# INCREASES IN COMMUNITY TRANSMISSION OF COVID-19 IN CERTAIN NEIGHBORHOODS OF NEW YORK CITY

**Demetre Daskalakis, MD, MPH**

Incident Commander
Deputy Commissioner, Disease Control
NYC Department of Health and Mental Hygiene

NYC Health

# INCREASES IN COMMUNITY TRANSMISSION

- There are concerning increases in community transmission in certain neighborhoods in NYC
- NYC is taking action through:
  - Regular monitoring of local epidemiology
  - Implementing New York State's Cluster Action Initiative, which includes restrictions in three zones — red, orange, yellow
  - Targeted testing, media, and outreach

# AREAS OF CONCERN IN BROOKLYN AND QUEENS*

## Brooklyn (South and West)

| ZIP | 14-day cumulative Test Positivity (previous day)** |
|---|---|
| **11204** | **6.12%** |
| **11205** | 1.48% |
| **11206** | 1.57% |
| **11208** | 2.69% |
| **11210** | **5.39%** |
| **11211, 11249** | 2.11% |
| **11213** | 1.98% |
| **11218** | 2.97% |
| **11219** | **7.73%** |
| **11223** | **6.90%** |
| **11229** | **4.19%** |
| **11230** | **6.52%** |
| **11234** | 2.35% |
| **11235** | **3.41%** |

## Central Queens

| ZIP | 14-day cumulative Test Positivity (previous day)** |
|---|---|
| **11366** | 2.10% |
| **11367** | **3.99%** |
| **11374** | 2.35% |
| **11375** | 1.96% |
| **11414** | 2.17% |
| **11415** | 2.34% |
| **11416** | **4.06%** |
| **11418** | 2.13% |
| **11420** | 2.95% |
| **11423** | 2.51% |
| **11426** | 2.23% |
| **11432** | **3.25%** |
| **11435** | **3.07%** |

## Far Rockaway

| ZIP | 14-day cumulative Test Positivity (previous day)** |
|---|---|
| **11691** | **5.83%** |

*Includes ZIP codes outside of the zoned areas.
**Data are preliminary and subject to change; data from the most recent days are incomplete due to testing lags.

NYC Health

# COVID-19 CLUSTER ZONES

- New York State-designated zones reflect areas of increased transmission and surrounding areas
  - Red zones have the most restrictions, followed by orange, followed by yellow
- All New Yorkers should know in what zone they live and work so that they know their potential risk of exposure and what restrictions apply to them
- NYC address look-up website: nyc.gov/COVIDZone
  - Can search an address, place, or intersection in NYC
  - Can zoom in to street level to see boundaries of each zone

# COVID-19 Zone Finder

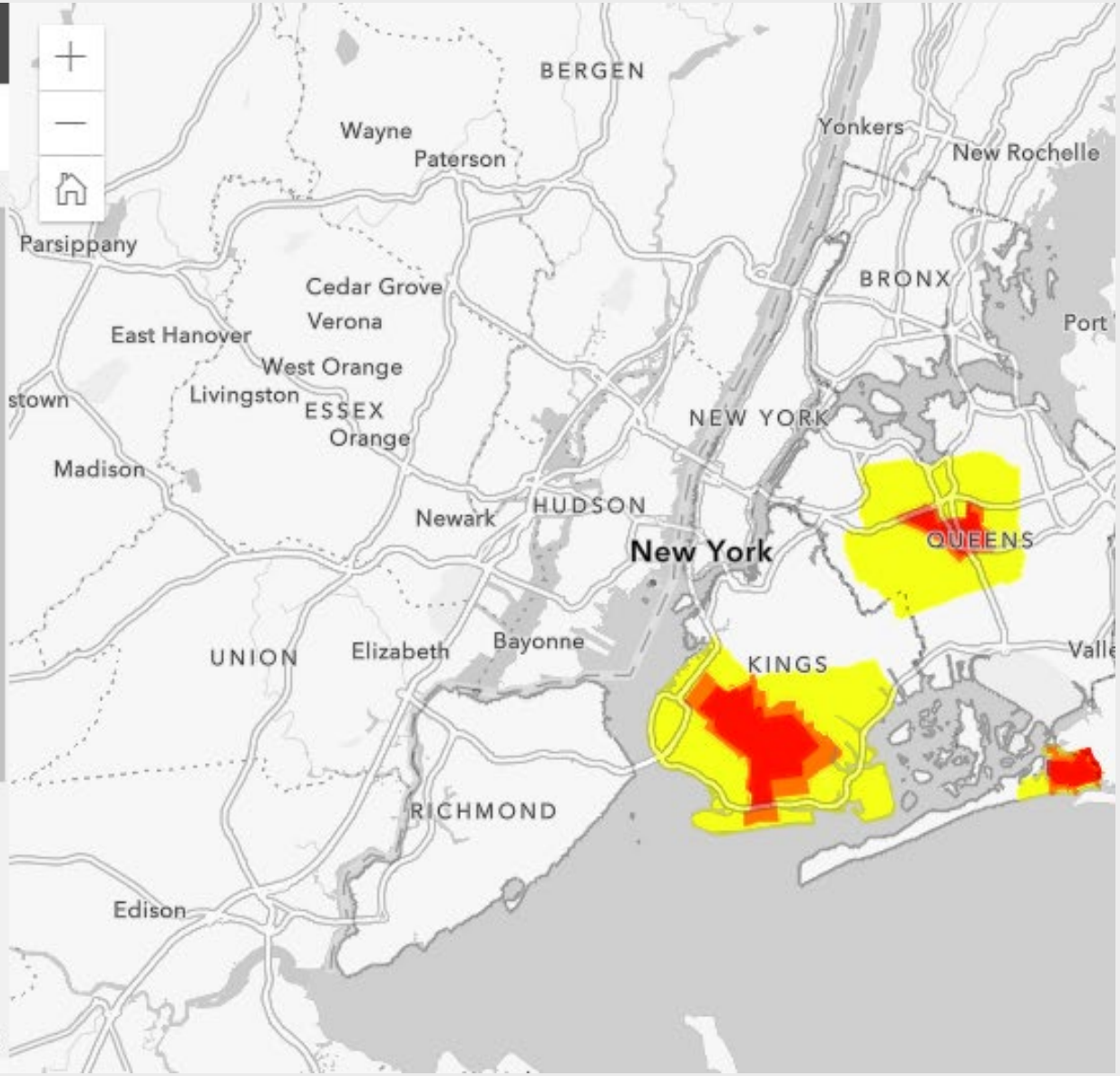
Enter an address, place, or intersection

Enter **an address or intersection** or **click on the map** to find out whether you are in a New York State-designated COVID-19 zone, and get informed about the proper precautions to take for specific activities.

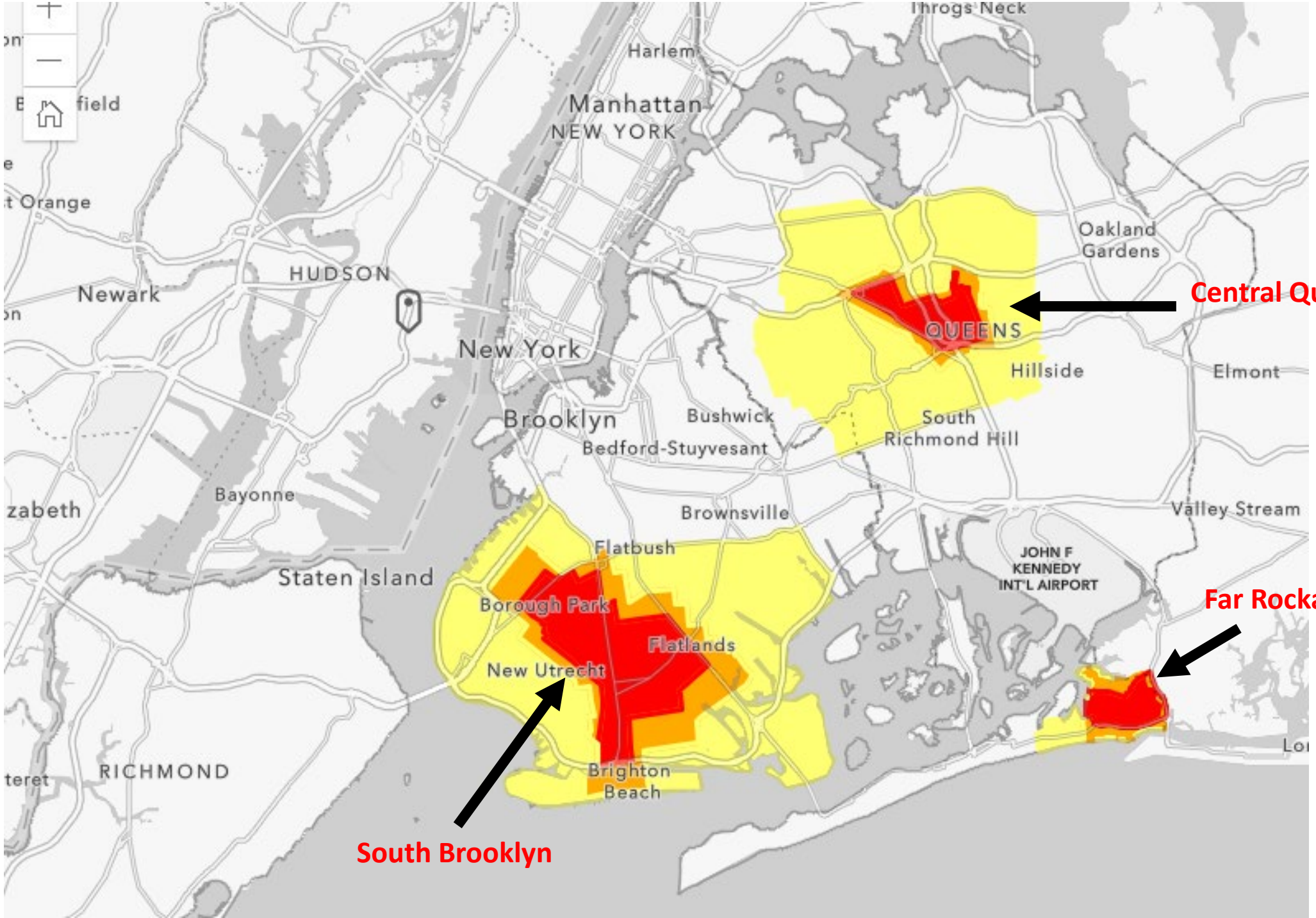
## Prevent The Spread of COVID-19 in NYC!

**Take These Steps:**

- Stay home if you're sick
- Keep physical distance
- Wear a face covering
- Keep your hands clean




nyc.gov/COVIDZone


Throgs Neck
Harlem
Manhattan
NEW YORK
Orange
Newark
HUDSON
New York
Brooklyn
Bushwick
Bedford-Stuyvesant
Oakland Gardens
QUEENS
Hillside
Elmont
South Richmond Hill
Bayonne
Brownsville
Valley Stream
Flatbush
Staten Island
JOHN F KENNEDY INT'L AIRPORT
Borough Park
Flatlands
New Utrecht
Brighton Beach
RICHMOND
Central Queens
Far Rockaway
South Brooklyn

# SUMMARY OF RESTRICTIONS BY ZONE

As of October 8, restrictions are now in place in designated COVID-19 zones for a minimum of 14 days.

| Sector | Red Zone | Orange Zone | Yellow Zone |
|---|---|---|---|
| **Schools** | Closed; full remote learning | Closed; full remote learning | Open |
| **Businesses** | Only essential businesses* can remain open | Only essential businesses* can remain open | Open |
| **Food Service Establishments** | Take out and delivery only (no indoor or outdoor dining) | Outdoor dining allowed (no indoor dining); maximum 4 people per table | Indoor and outdoor dining allowed; maximum 4 people per table |
| **Houses of Worship** | 25% capacity, up to a maximum of 25 people | 33% capacity, up to a maximum of 25 people | 50% maximum capacity |
| **Gatherings (indoor and outdoor)** | All nonessential gatherings prohibited** | Maximum of 10 people** | Maximum of 25 people** |

*As defined by New York State at: https://esd.ny.gov/ny-cluster-action-initiative-guidance

**Fines up to $15,000/day

NYC Health

## RESPONSE TO INCREASED TRANSMISSION

- We have been deploying resources to significant clusters in Brooklyn and Queens since early September
- We have taken a hyperlocal approach to target zip codes in the Bronx (Tremont), Brooklyn (Sunset Park) and Queens (Ozone Park)
- We must take action now to reverse these trends – and we need your help and your voice to change the trajectory

# UPDATED TESTING GUIDANCE:
## Testing and Screening People Who Live or Work in NYC (HAN #38)

- Offer diagnostic testing with a nucleic acid amplification (NAA) or antigen-based test to people who:
  - Live or work in areas of NYC with increased COVID-19 activity
  - Have COVID-19 symptoms
  - Have a recent exposure to someone with known COVID-19
- Offer testing in special circumstances:
  - People returning from a restricted state, as designated by New York State (https://coronavirus.health.ny.gov/covid-19-travel-advisory)
  - People who attended in indoor gatherings of >50 people
  - People who plan to visit someone with an increased risk for severe COVID-19 (2-3 days before planned visit)

https://nyc.gov/assets/doh/downloads/pdf/han/alert/2020/covid-19-diagnostic-testing-10142020.pdf

# UPDATED TESTING GUIDANCE:
## Testing and Screening People Who Live or Work in NYC

- Screen people who do not have symptoms or a known exposure to prevent asymptomatic and pre-symptomatic transmission
- Offer monthly screening (using NAA, with certain exceptions) to the following groups every month or as deemed appropriate for the setting and local epidemiology:
  - Residents and staff of long-term care facilities (exception: staff must be tested weekly per NYS)
  - Health care personnel
  - Other workers with frequent contact with large numbers of persons (e.g., child care staff, teachers, first responders)
- Offer screening every 1-3 months to people attending events where physical distancing not possible and workers who interact with others
  - The exact interval within this range should be based on shared decision-making with the patient, considering possible exposures and risk factors for COVID-19
  - It is reasonable to do monthly testing when risk is unknown or unclear

https://nyc.gov/assets/doh/downloads/pdf/han/alert/2020/covid-19-diagnostic-testing-10142020.pdf

NYC Health

# UPDATED TESTING GUIDANCE: People Who Previously Tested Positive

- Re-testing individuals who test positive for COVID-19 and remain asymptomatic after recovery is not recommended within 90 days of initial symptom onset (or date of first positive test if asymptomatic)
  - If new COVID-19 symptoms develop, an evaluation for re-infection with COVID-19 may be appropriate; consult an infectious disease expert
- Refer to CDC for additional guidance

https://nyc.gov/assets/doh/downloads/pdf/han/alert/2020/covid-19-diagnostic-testing-10142020.pdf

# WHAT CAN I DO TO HELP?

- Encourage testing – ask patients:
  - Where they live and work and use nyc.gov/COVIDZone to see if they are in a zone with increased COVID-19
  - What they do for a living and recommend periodic testing as appropriate
  - About any recent or planned travel and advise about testing and quarantine
- Promptly report COVID-19 point-of-care test results with all required information (including school and employment) via Electronic Clinical Laboratory Reporting System (ECLRS)
  - Critical to accurately monitor incidence and percent positivity
  - Positive test results trigger contact tracing
- Check in on patients with an increased risk of severe disease
- Explain the importance of face coverings (and how to properly wear one), physical distancing, and other prevention measures

# PREVENT THE SPREAD OF COVID-19 IN NYC!

## TAKE THESE STEPS:

**Stay home if you're sick**
Only leave for essential medical care and testing or other essential errands.

**Wear a face covering**
You can be contagious without symptoms. Protect those around you by wearing a face covering.


**Keep physical distance**
Stay at least 6 feet away from other people.

**Keep your hands clean**
Wash your hands often with soap and water or use hand sanitizer if soap and water are not available.


**Get tested:** There are free COVID-19 testing sites in all five boroughs. To find a site, visit **nyc.gov/covidtest**, or text "COVID test" to 855-48.

For the latest information, visit **nyc.gov/coronavirus**.

NYC Health | NYC HEALTH+ HOSPITALS | Test & Trace Corps

# OVERVIEW OF SARS-COV-2 TESTING - THE GOOD , THE BAD AND WHAT TO USE WHEN

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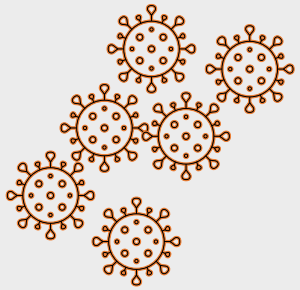
NYC Health

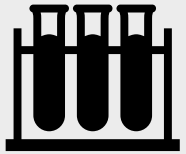
# FDA EUA FOR SARS-CoV-2 TESTS

- Emergency Use Authorization (EUA)
  - Under section 546 of the FD&C Act, the Food and Drug Administration (FDA) may allow unapproved medical products to be used in an emergency to diagnose serious or life-threatening diseases
  - Generally awarded when there are no adequate, approved, and available alternatives
  - Not the same as FDA Approval
  - Several SARS-CoV-2 tests with FDA EUA
  - No tests yet with FDA approval

https://www.fda.gov/emergency-preparedness-and-response/mcm-legal-regulatory-and-policy-framework/emergency-use-authorization

# TYPES OF TESTS FOR SARS-COV-2[1,2]

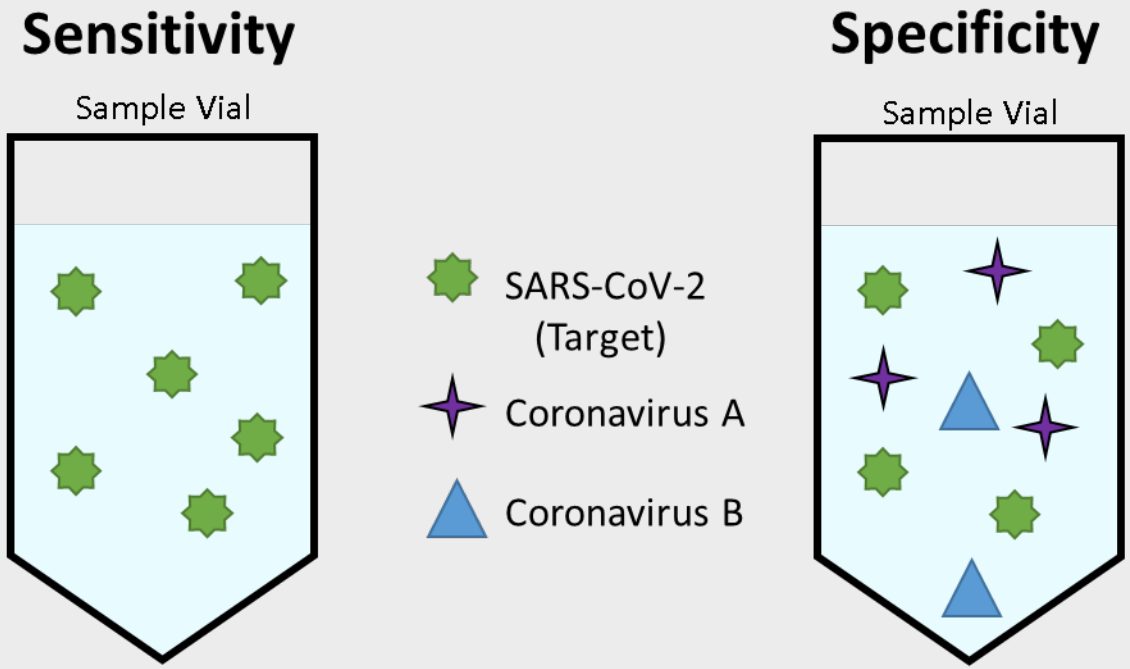




- Virology
  - RNA (Nucleic Acid Amplification- (NAA))
    - Polymerase Chain Reaction (PCR)
    - Isothermal Amplification
  - Antigen
- Serology
  - Antibody Tests
    - Clinical Laboratory
    - Point of Care

# LABORATORY TESTING

## Test Sensitivity and Specificity




- How much of your target material needs to be present to be detected?
  - Low amounts = High Sensitivity
  - High Amounts = Low Sensitivity
- Can your test distinguish your target from similar targets?
  - Only your target = High Specificity
  - Yours and others = Low Specificity

# NUCLEIC ACID AMPLIFICATION (NAA) TESTS

PCR is the "gold standard"

**Cepheid GeneXpert Infinity: Sample-to-answer PCR**


https://www.cepheid.com/en_US/systems/GeneXpert-Family-of-Systems/GeneXpert-Infinity

**Abbott ID NOW COVID-19: Point-of-care isothermal NAA**


https://www.abbott.com/corpnewsroom/product-and-innovation/how-id-now-tackles-covid-19.html

## Pros

- The most sensitive tests
- Both laboratory-based and point-of-care options are available

## Cons

- Expensive
- Too sensitive?

# ANTIGEN DETECTION TESTS

**Quidel Sofia Antigen Fluorescent Immunoassay**


https://www.quidel.com/immunoassays/sofia-tests-kits/sofia-analyzer

**Abbott BinaxNOW COVID-19 Antigen CARD**


https://www.abbott.com/corpnewsroom/product-and-innovation/upping-the-ante-on-COVID-19-antigen-testing.html

## Pros

- Fast and easy to perform
- Less expensive
- Specificity is comparable to PCR

## Cons

- Lower sensitivity resulting in false negative test result and confirmatory using a NAA should be considered for patients with symptoms or known exposure

# SENSITIVITY COMPARISON[3]

Lower sensitivity

Higher sensitivity

Nasal Swab → Nasopharyngeal Swab

**Quidel Sofia (antigen)**

https://www.quidel.com/immunoassays/sofia-tests-kits/sofia-analyzer

**Abbott ID NOW (RNA)**


https://www.abbott.com/corpnewsroom/product-and-innovation/how-id-now-tackles-covid-19.html

**Cepheid Xpert Xpress (RNA)**

https://www.cepheid.com/en_US/systems/GeneXpert-Family-of-Systems/GeneXpert-Infinity

**Hologic Aptima (RNA)**


https://www.hologic.com/hologic-products/diagnostic-solutions/panther-scalable-solutions/panther-system

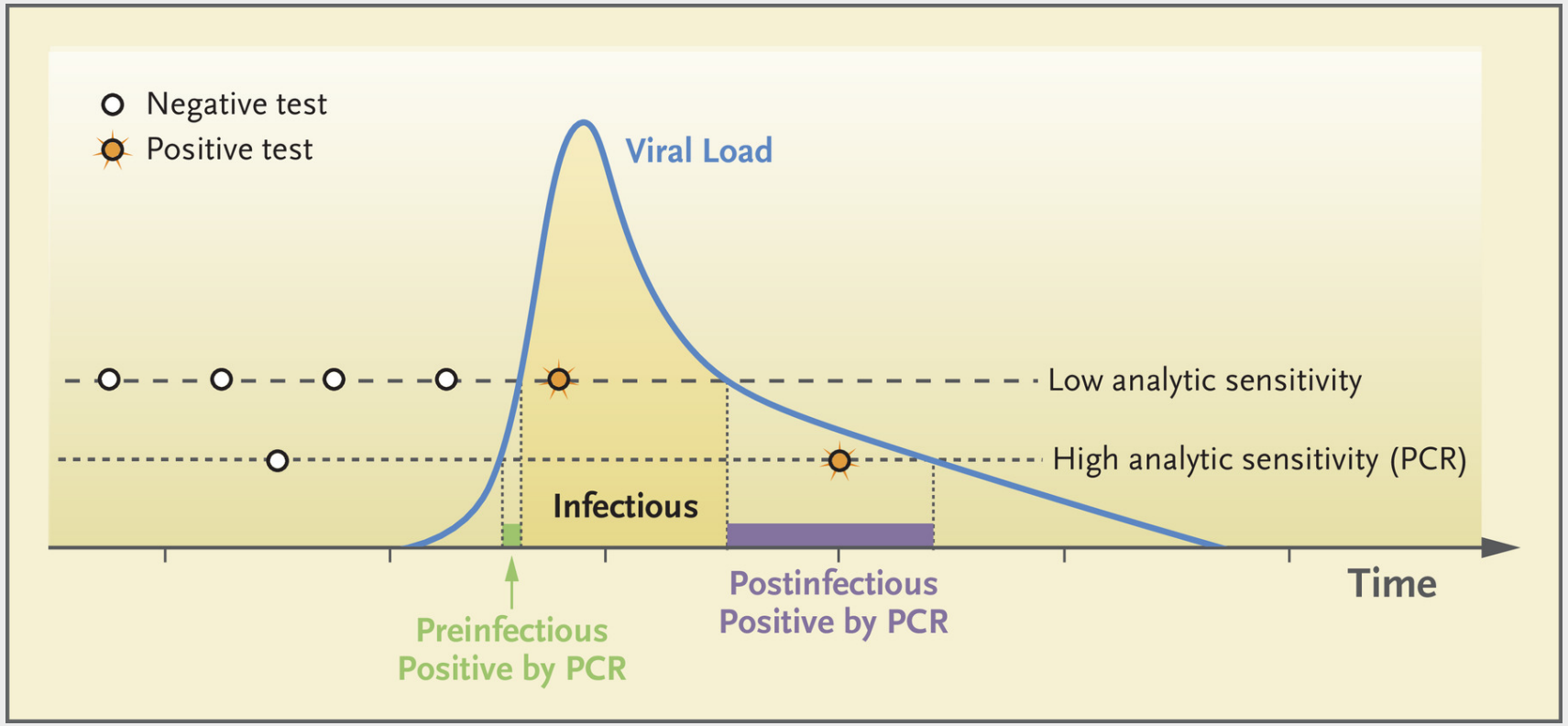
## Rapid Tests

Antigen or RNA detection

## Laboratory-Based Tests

Mostly RNA detection

# DIAGNOSTIC VS. SCREENING TESTS[2]




## Diagnostic

Symptomatic or known exposure

- NAA test
- Antigen test

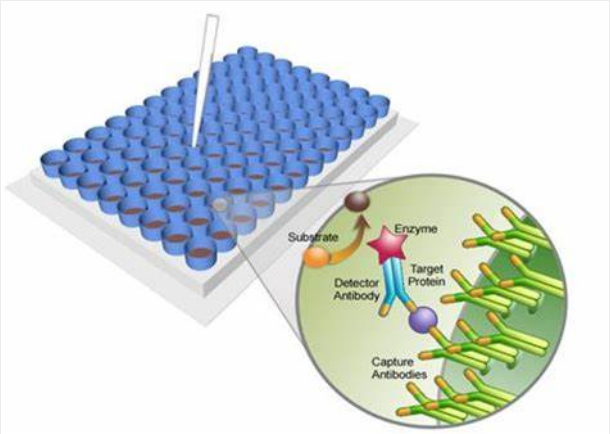
## Screening

**No** symptoms, **no** known exposure

- NAA test
- Antigen ONLY in certain settings

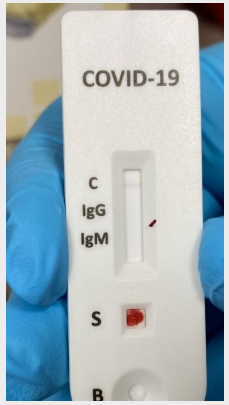
# SEROLOGY

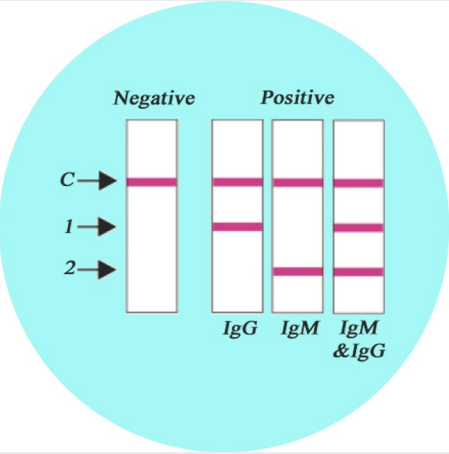
## Clinical Laboratory Tests




http://www.gmotesting.com/Testing-Options/Immuno-analysis/ELISA

## Point of care tests



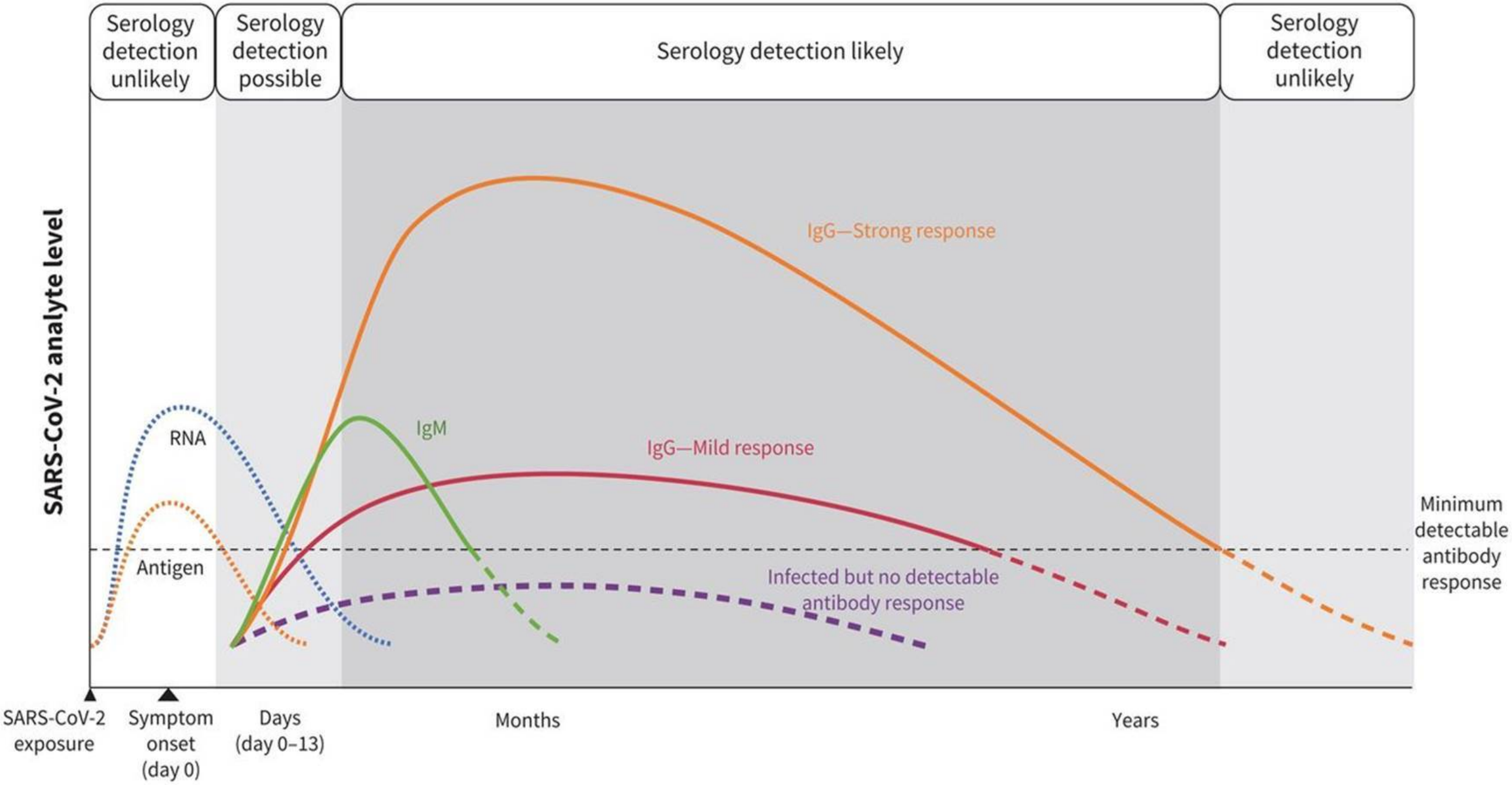

https://asianmedic.com/wp-content/uploads/2020/03/One-Step-4_1.png

## Pros

- Possible to determine if a patient likely had a prior COVID-19 infection
- Results can be obtained rapidly depending on test
- Tests are often easy to procure

## Cons

- High rate of false positives and negatives (low sensitivity)
- A positive result does not equal immunity to the virus




See Reference #4

# OVERVIEW OF SARS-COV-2 TESTING REFERENCES


1. COVID testing overview CDC https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/testing.html
2. Mina, M. J., et al. (2020). Rethinking Covid-19 Test Sensitivity - A Strategy for Containment. *N Engl J Med* 2020 Sep 30. DOI: 10.1056/NEJMp2025631
3. Ravi, N., et al. Diagnostics for SARS-CoV-2 detection: A comprehensive review of the FDA-EUA COVID-19 testing landscape. *Biosensors and Bioelectronics* 165 (2020): 112454. Published online 2020 Jul 18. DOI: 10.1016/j.bios.2020.112454
4. Van Caeseele, P., et al. SARS-CoV-2 (COVID-19) serology: implications for clinical practice, laboratory medicine and public health. *CMAJ* 192.34 (2020): E973-E979. DOI: 10.1503/cmaj.201588 .

# ADDITIONAL RESOURCES ON COVID-19

**NYC Health Department**

- Provider page: https://www1.nyc.gov/site/doh/covid/covid-19-providers.page
- Data page: https://www1.nyc.gov/site/doh/covid/covid-19-data.page
- Weekly webinars: Every other Friday, 1 p.m. (sign up on provider page)
- Dear Colleague COVID-19 newsletters (sign up for *City Health Information* subscription at: nyc.gov/health/register)
- NYC Health Alert Network (sign up at https://www1.nyc.gov/site/doh/providers/resources/health-alert-network.page)
- Provider Access Line: **866-692-3641**
- Neighborhood resource snapshots: https://www1.nyc.gov/site/doh/covid/covid-19-communities.page

**NYC COVID-19 Citywide Information Portal**

- Includes information on >150 testing sites in NYC: NYC.gov/covidtest

**Learn more below about zone restrictions**

- https://www1.nyc.gov/site/doh/covid/covid-19-main.page

**Other sources**

- CDC: https://www.cdc.gov/coronavirus/2019-ncov/index.html

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# RETRIEVING CME CREDITS

- Log onto the CPE website: http://cme.nychhc.org.
- Look for the login section (on the right side).
- Create a profile if you have not logged in before.
- Enter your username (email address) and password. Click on the **Go** button.
- The Welcome Screen will appear. Click on the **Go** button.
- The next screen will display three tabs: "**My Programs,**" "**CPE Tracker**" and "**My Account Info.**"
- Click the tab "**CPE Tracker.**"
- On the same row, look to your right. Locate the '**Select Year**' section. Click on the **down arrow and select the year** to view. Certificates will be listed by program name.
- View credits or print certificates by clicking on the certificate located under the **view/print** column.
- Note: It may take up to 8 weeks for H+H to process credits.