

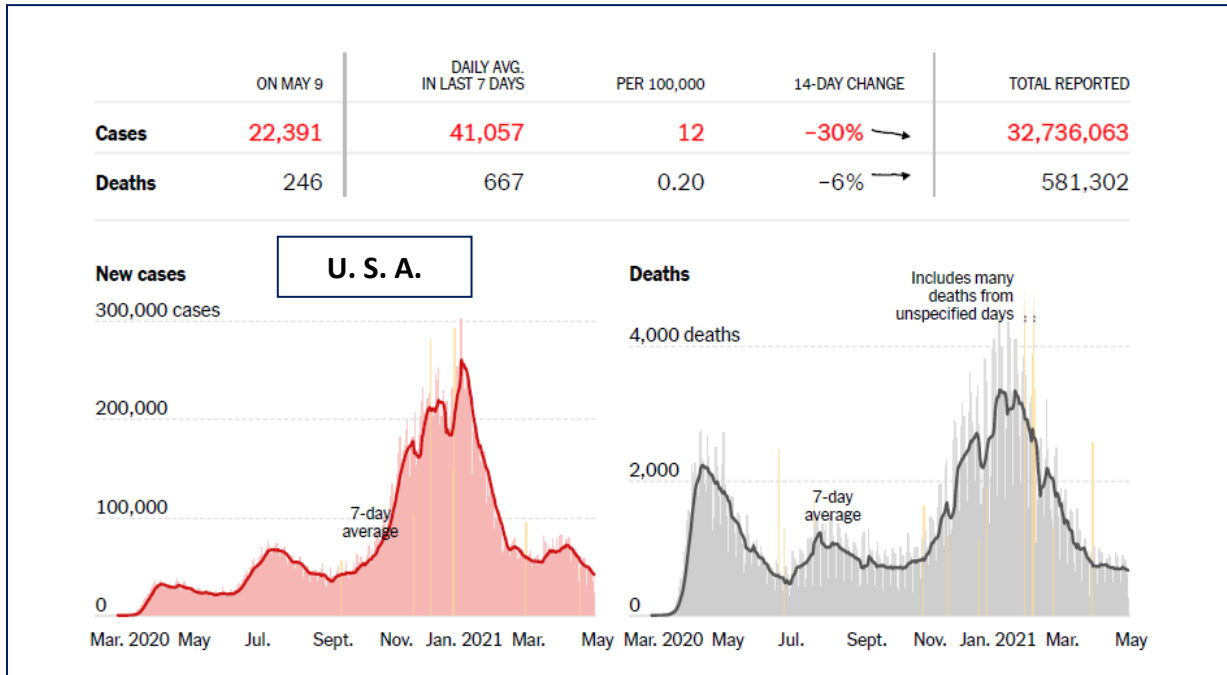
# COVID-19 UPDATE – MONDAY, MAY 10, 2021

Dear Members of the DoM Community,

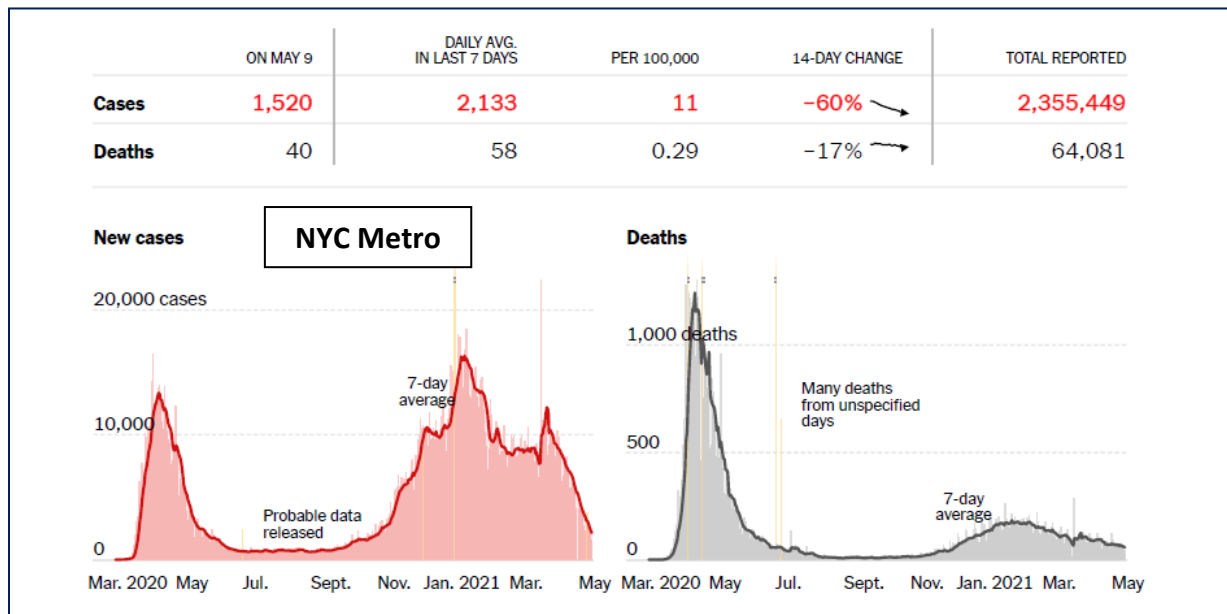
Good morning to you and to the mothers out there, a belated Happy Mother’s Day. Here is what’s happening in the COVID-19 pandemic last week and all trends have been encouraging. Please enjoy the reading.

## 1. Nationwide COVID-19 Data

*Daily new case numbers in the U.S. continued to decline, now at the lowest 7-day average level since Sept 20, 2020.*

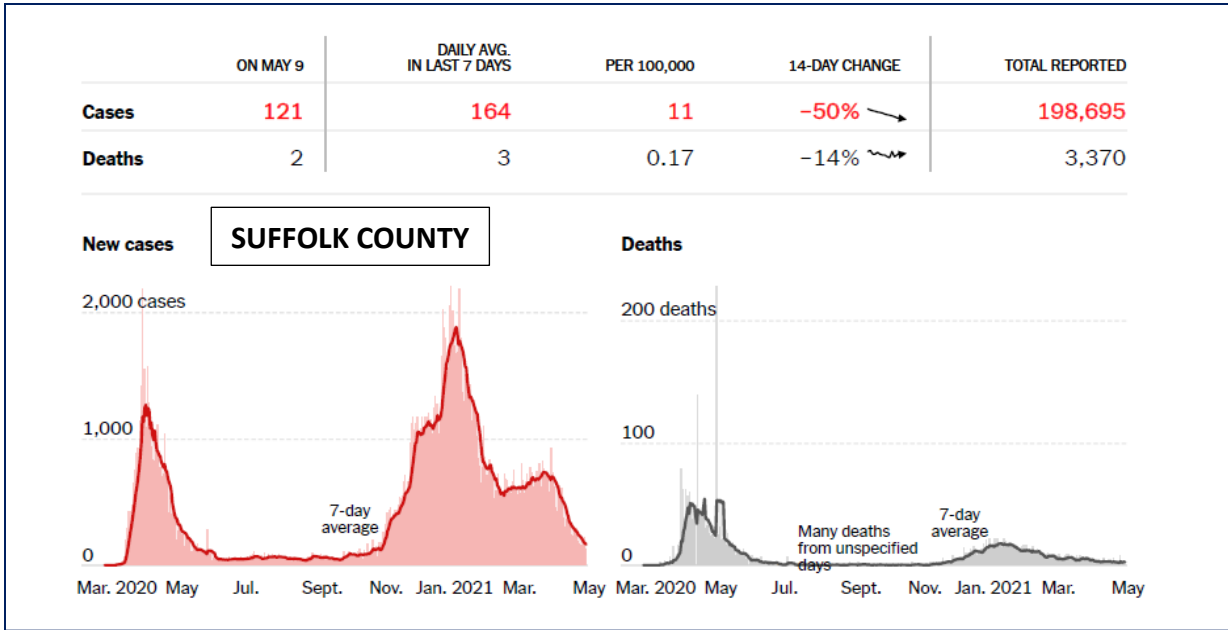


## 2. New case numbers in the New York City metro area also continued to decrease (lowest since Oct 24, 2020).



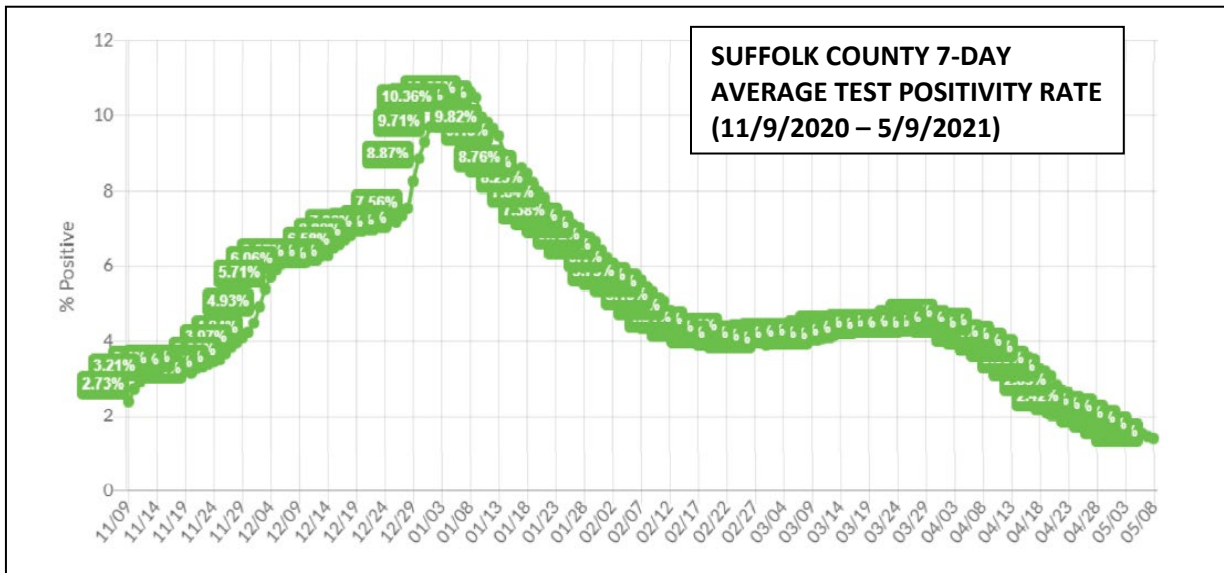
**Metro area definition** - The New York City area metro area has a population of 19.8 million people and contains Bergen County, Essex County, Hudson County, Hunterdon County, Middlesex County, Monmouth County, Morris County, Ocean County, Passaic County, Somerset County, Sussex County and Union County in New Jersey; Dutchess County, Nassau County, Orange County, Putnam County, Rockland County, Suffolk County, Westchester County and New York City in New York and Pike County in Pennsylvania.

3. Case numbers in Suffolk County have also significantly declined, now at a 7-day average of 11 per 100,000 population. This is a decrease of 5 per 100,000 from a week ago and lowest since Nov 10, 2020.



**COVID-19 Testing Results in Suffolk County on May 9:**

- 10,204 COVID-19 tests were administered.
- 121 new cases were reported.; 7-day average = 164, a decrease of 76 from one week ago.
- 198,695 total cases have been reported since March of 2020.
- Seven-day average test positivity rate = **1.4%**, **lowest since Oct 28, 2020** (see 6-month trend below); Infection positivity rate was highest on Jan 4, at 10.6%



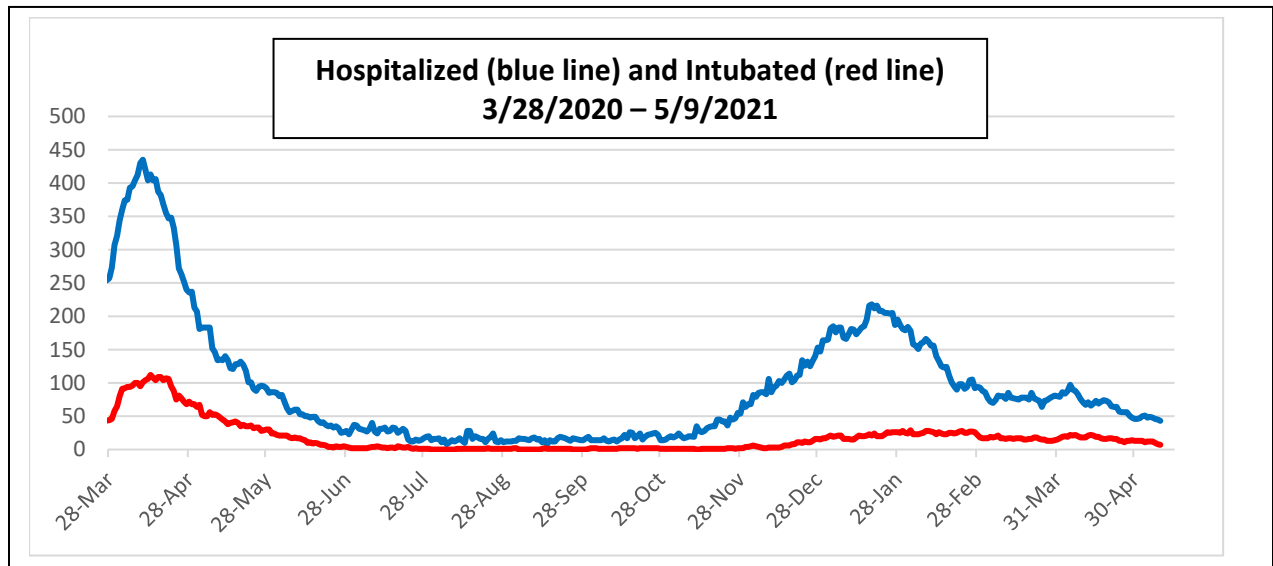
**Fatalities:**

- 3,370 total fatalities, an increase of 18 from one week before.

**COVID-19 Hospitalizations:**

- 144 individuals were hospitalized, a decrease of 34 from one week before.
- 36 patients were in the Intensive Care Unit (ICU), a decrease of 17 from a week ago.

#### 4. Daily COVID-19 Hospitalization Data in SBUH



At midnight Sunday, May 9, SBUH census is as follows (see figure above for all-time trend of hospitalization).

- 46 COVID + inpatients; 7-day average = 47, a **decrease of 1** from one week before.
- 12 patients were in ICU level of care; 7 on ventilators; 5 in ICR.
- Total hospital census = 578; Med/Surg = 448 (101%).

#### 5. SARS-CoV-2 Viral Variants Update (source = CDC; NYC Health Department)

| Specimen collection date, week | Total specimens sequenced by PRL | B.1.1.7 (N, %) | B.1.351 (N, %) | B.1.429 (N, %) | B.1.427 (N, %) | P.1 (N, %) | B.1.526 (N, %)* |                 | B.1.525 (N, %) | P.2 (N, %) |
|--------------------------------|----------------------------------|----------------|----------------|----------------|----------------|------------|-----------------|-----------------|----------------|------------|
|                                |                                  |                |                |                |                |            | S:E484K+ (N, %) | S:E484K- (N, %) |                |            |
| Feb 8 - 14                     | 734                              | 52 (7.1%)      | 0 (0%)         | 9 (1.2%)       | 4 (0.5%)       | 0 (0%)     | 111 (15.1%)     | 103 (14%)       | 1 (0.1%)       | 3 (0.4%)   |
| Feb 15 - 21                    | 826                              | 69 (8.4%)      | 2 (0.2%)       | 5 (0.6%)       | 8 (1.0%)       | 0 (0%)     | 133 (16.1%)     | 121 (14.6%)     | 1 (0.1%)       | 0 (0%)     |
| Feb 22 - 28                    | 990                              | 118 (11.9%)    | 0 (0%)         | 12 (1.2%)      | 4 (0.4%)       | 0 (0%)     | 207 (20.9%)     | 178 (18%)       | 4 (0.4%)       | 2 (0.2%)   |
| March 1 - 7                    | 715                              | 125 (17.5%)    | 0 (0%)         | 14 (2.0%)      | 3 (0.4%)       | 0 (0%)     | 168 (23.5%)     | 153 (21.4%)     | 1 (0.1%)       | 0 (0%)     |
| March 8 - 14                   | 1481                             | 141 (9.5%)     | 0 (0%)         | 13 (0.9%)      | 2 (0.1%)       | 1 (0.1%)   | 227 (15.3%)     | 254 (17.2%)     | 0 (0%)         | 0 (0%)     |
| March 15 - 21                  | 698                              | 183 (26.2%)    | 2 (0.3%)       | 8 (1.1%)       | 5 (0.7%)       | 4 (0.6%)   | 195 (27.9%)     | 105 (15.0%)     | 2 (0.3%)       | 0 (0%)     |
| March 22 - 28                  | 1496                             | 441 (29.5%)    | 4 (0.3%)       | 17 (1.1%)      | 5 (0.3%)       | 19 (1.3%)  | 381 (25.5%)     | 295 (19.7%)     | 3 (0.2%)       | 0 (0%)     |
| March 29-April 4               | 1195                             | 425 (35.6%)    | 4 (0.3%)       | 6 (0.5%)       | 9 (0.8%)       | 15 (1.3%)  | 305 (25.5%)     | 201 (16.8%)     | 6 (0.5%)       | 0 (0%)     |
| April 5-11                     | 1831                             | 665 (36.3%)    | 4 (0.2%)       | 7 (0.4%)       | 7 (0.4%)       | 47 (2.6%)  | 463 (25.3%)     | 276 (15.1%)     | 5 (0.3%)       | 0 (0%)     |
| April 12-18                    | 1404                             | 532 (37.9%)    | 5 (0.4%)       | 11 (0.8%)      | 6 (0.4%)       | 47 (3.4%)  | 366 (26.1%)     | 196 (14.0%)     | 9 (0.6%)       | 0 (0%)     |
| April 19-25                    | 955                              | 396 (41.5%)    | 1 (0.1%)       | 3 (0.3%)       | 8 (0.8%)       | 34 (3.6%)  | 229 (24%)       | 121 (12.7%)     | 5 (0.5%)       | 0 (0%)     |

- The Health Department in New York City has identified multiple variants of interest and variants of concern, notably the **B.1.1.7** and the **B.1.526** variants:

- **B.1.1.7** (first identified in the UK) is classified by CDC as a **variant of concern**, which means that there is evidence that it increases transmissibility and the severity of disease. Specifically, B.1.1.7 has been found to be 50% more transmissible and cause more severe infections. The most recent surveillance data showed that it has surpassed all other variants in NYC (see table above). It is also the predominant variant strain in the U.S.
- **B.1.526** (first identified in NYC) is classified by CDC as a **variant of interest**, because there are signs that it increases transmissibility. See below for a recent report on the infectivity of this strain.
- A recent communication from the CDC's MMWR suggests that B.1.526 variant does not lead to more severe disease or increased risk for infection after vaccination (see summary below and citation).

### **Rapid Emergence and Epidemiologic Characteristics of the SARS-CoV-2 B.1.526 Variant — New York City, New York, January 1–April 5, 2021**

Corinne N. Thompson *et al.*/MMWR/May 5, 2021 /70

[https://www.cdc.gov/mmwr/volumes/70/wr/mm7019e1.htm?s\\_cid=mm7019e1\\_w](https://www.cdc.gov/mmwr/volumes/70/wr/mm7019e1.htm?s_cid=mm7019e1_w)

#### **SUMMARY**

##### **What is already known about this topic?**

B.1.526 emerged in November 2020 as a SARS-CoV-2 variant of interest in New York City (NYC). The presence of the E484K mutation is concerning because it has been shown to attenuate antibody neutralization in vitro.

##### **What is added by this report?**

The NYC Department of Health and Mental Hygiene analyzed laboratory and epidemiologic data to characterize cases of B.1.526 infection and the associated potential for breakthrough infection and reinfection. Preliminary evidence suggests that, to date, B.1.526 does not lead to more severe disease or increased risk for infection after vaccination.

##### **What are the implications for public health practice?**

Rapid integration of whole genome sequencing and population-based surveillance data is critical to characterizing new SARS-CoV-2 variants.

- Another recent article in NEJM suggests that the Pfizer-BioNTech mRNA vaccine is effective in preventing infection and disease caused by the B.1.1.7 and B.1.351 ('South African') variants.

### **Effectiveness of the BNT162b2 Covid-19 Vaccine against the B.1.1.7 and B.1.351 Variants**

Laith J. Abu-Raddad *et al.*, May 5, 2021

<https://www.nejm.org/doi/full/10.1056/NEJMc2104974>

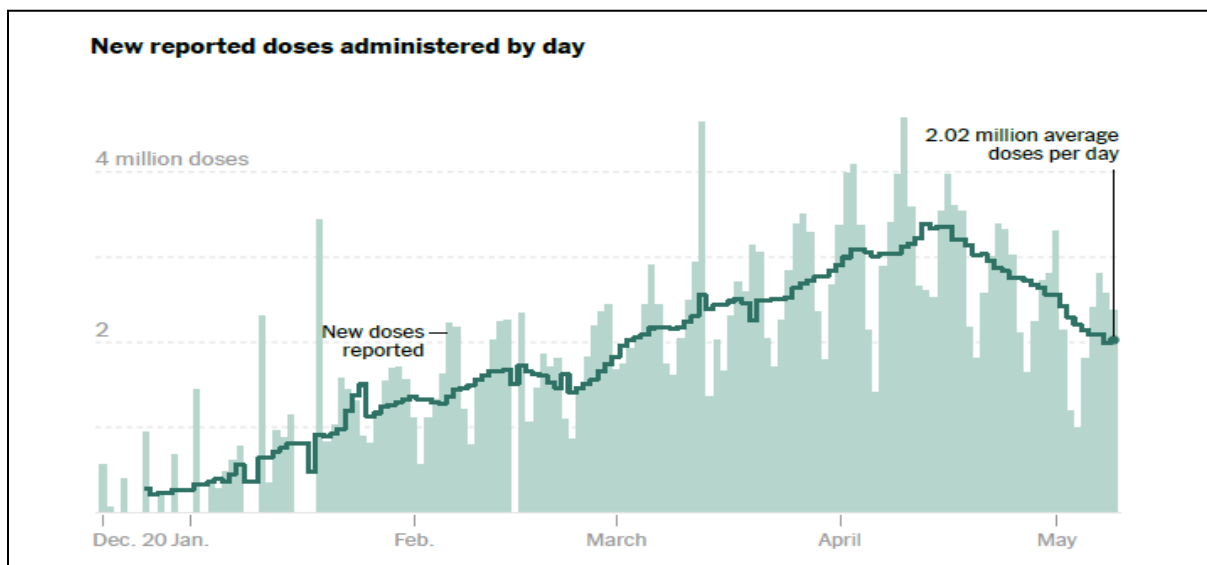
See Table 1 below for a summary of results.

**Table 1. Vaccine Effectiveness against Infection and against Disease in Qatar.**

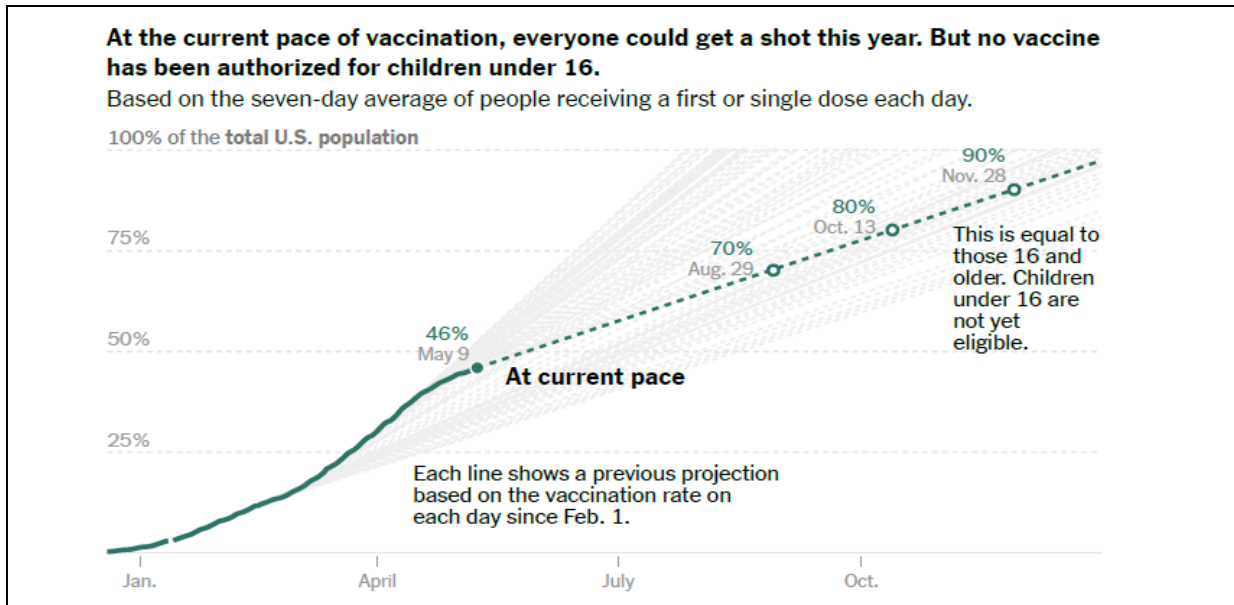
| Type of Infection or Disease                                     | PCR-Positive Persons     |              | PCR-Negative Persons |              | Effectiveness (95% CI)*   |
|--|--------------------------|--------------|----------------------|--------------|---------------------------|
|  | Vaccinated               | Unvaccinated | Vaccinated           | Unvaccinated |                           |
|  | <i>number of persons</i> |              |                      |              | <i>percent</i>            |
| <b>Infection</b>   |                          |              |                      |              |                           |
| PCR-confirmed infection with the B.1.1.7 variant†                |                          |              |                      |              |                           |
| After one dose   | 892                      | 18,075       | 1241                 | 17,726       | 29.5 (22.9–35.5)          |
| ≥14 days after second dose                                       | 50                       | 16,354       | 465                  | 15,939       | <b>89.5 (85.9–92.3)</b>   |
| PCR-confirmed infection with the B.1.351 variant‡                |                          |              |                      |              |                           |
| After one dose   | 1329                     | 20,177       | 1580                 | 19,926       | 16.9 (10.4–23.0)          |
| ≥14 days after second dose                                       | 179                      | 19,396       | 698                  | 18,877       | <b>75.0 (70.5–78.9)</b>   |
| <b>Disease§</b>  |                          |              |                      |              |                           |
| Severe, critical, or fatal disease caused by the B.1.1.7 variant |                          |              |                      |              |                           |
| After one dose   | 30                       | 468          | 61                   | 437          | 54.1 (26.1–71.9)          |
| ≥14 days after second dose                                       | 0                        | 401          | 20                   | 381          | <b>100.0 (81.7–100.0)</b> |
| Severe, critical, or fatal disease caused by the B.1.351 variant |                          |              |                      |              |                           |
| After one dose   | 45                       | 348          | 35                   | 358          | 0.0 (0.0–19.0)            |
| ≥14 days after second dose                                       | 0                        | 300          | 14                   | 286          | <b>100.0 (73.7–100.0)</b> |
| Severe, critical, or fatal disease caused by any SARS-CoV-2      |                          |              |                      |              |                           |
| After one dose   | 139                      | 1,966        | 220                  | 1,885        | 39.4 (24.0–51.8)          |
| ≥14 days after second dose                                       | 3                        | 1,692        | 109                  | 1,586        | <b>97.4 (92.2–99.5)</b>   |

**6. Vaccination Program Update** (sources = CDC, NYS DOH, and NYT)

- On May 9, the 7-day average of COVID vaccine administered in the U.S. was 2.05 million. This was 400,000 fewer than that of a week ago. A total of 259 million+ doses have been administered since the beginning of the rollout.
- 46% of the U.S. population have received at least one dose (NY state and Suffolk County are both at 50%).**



- The projection below only shows the share of the total population with at least one shot based on the current rate of newly vaccinated people, but it provides a rough indication of when the virus’s spread could begin to stall.



- According to a recent New York Times article, experts now believe reaching ‘Herd Immunity’ in the U.S. is unlikely due to widely circulation virus variants and persistent vaccine hesitancy (<https://www.nytimes.com/2021/05/03/health/covid-herd-immunity-vaccine.html?action=click&module=Spotlight&pgtype=Homepage>).

That’s about it in the world of COVID-19 pandemic last week. Once again, I hope the information provided here is useful to you in keeping track of the progression of the pandemic. While the decreasing infection rates and increasing rollout of COVID vaccines are encouraging trends, we should remain vigilant. So please do keep safe and healthy.

Sincerely Yours,

Vincent W. Yang, MD, PhD  
 Simons Chair of Medicine  
 Professor of Medicine, Biomedical Informatics, and Physiology and Biophysics