

COVID-19 SECOND WAVE IN NYC? YES AND NO

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ABSTRACT. Recent data shows a jump in COVID-19 infections in NYC. How worried should we be?

CONTENTS

| | |
|-------------------|---|
| 1. Introduction | 1 |
| 2. Recent history | 1 |
| 3. Summary | 3 |
| References | 3 |

1. INTRODUCTION

Since September, NYC COVID-19 infection rates have been mostly increasing. This has lead to a spike in news articles, such as “New York City sees ‘very worrisome’ spike in coronavirus infection rate” [Dur20]. How worrisome is it, really? Let’s look at the data.

2. RECENT HISTORY

Figure 1 shows the 7-day rolling average of the number of cases per day since the drop off of the first wave in June. In the beginning of June, we see the tail end of the drop off in the number of cases per day of the first wave. This in the impact of the mitigating measures taken at that time, such as the lock-down, social distancing and the use of masks. This left us with about 325 cases per day. There was a small increase in the number of cases per day in mid-July, peaking around 375, after which the number of cases per day dropped down to under 250.

Starting in September, we see a rise in the number of cases per day. It has steadily increased, peaking at 550 cases per day on October 5th. Subsequently, it dropped down to 450 cases per day and started rising again, hitting 550 cases per day a second time on October 29th. Given that this last peak was less than a week ago, we can expect it to rise higher.

People are calling this a worrisome second wave, as exemplified in the above article. But, to put this rise in perspective, we need to compare the data leading up to the latest peak (Figure 2) to the data leading up to the first peak (Figure 3).

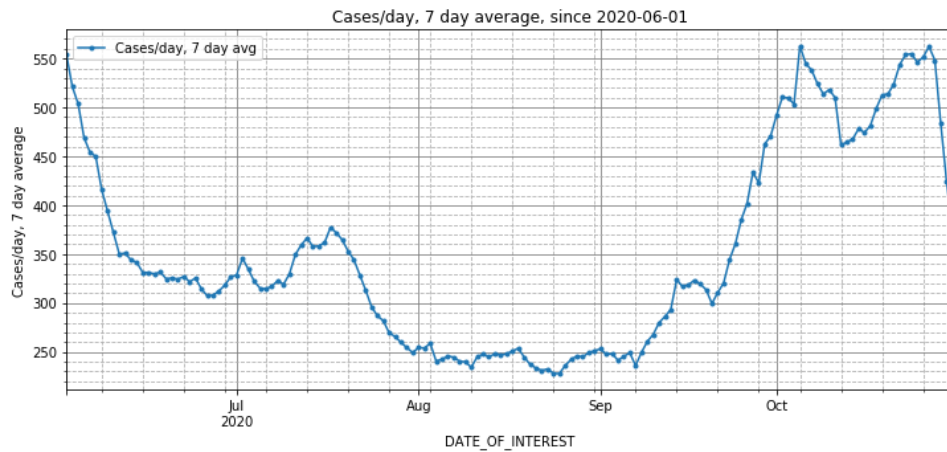


FIGURE 1. NYC COVID-19 cases per day, July to present, from the most recent report (beginning of November).

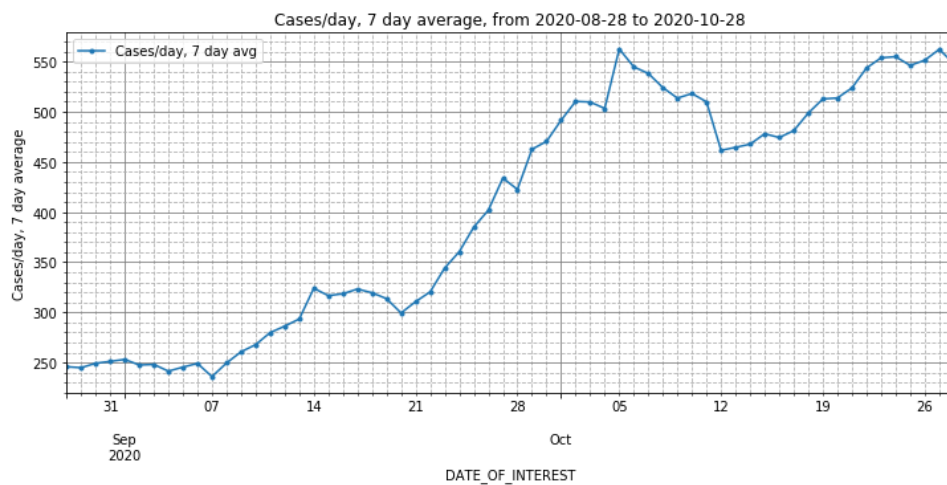


FIGURE 2. NYC COVID-19 cases per day, two months up to October peak.

As you can see, for the recent peak, it's taken about 4 weeks to double. We were at 250 cases per day at the beginning of September and didn't hit 550 cases per day until the end of the first week of October.

Compare this to the beginning of the pandemic. On March 10th, there were almost no cases per day. Over the course of one week, the number of cases per day jumped up to 1,000. Two days later we were experiencing 2,000 cases per day. Three days

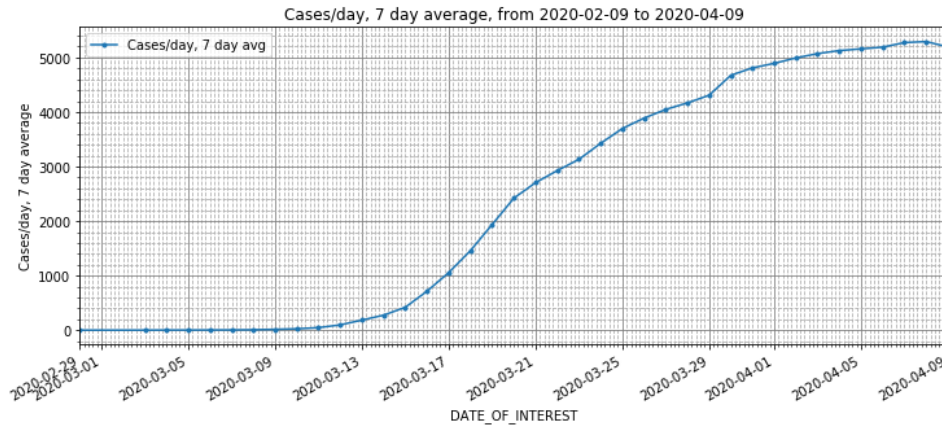


FIGURE 3. Data leading up to peak in first wave.

later we hit 3,000 cases per day, and 5 days later were seeing 4,000 cases/day. The peak was over 5,000 cases per day.

So, compared to the first wave, the recent peak is more of a ripple than a wave. While we still have to be careful, it's not unexpected that between school openings, restaurant openings and holidays, we'd see some additional growth. But it looks like the social distancing measures are continuing to do their work.

To make sure, let's look at the latest data as compared to earlier reports (Figure 4). It looks like we've pretty much received all of the data through October 12th. For more recent counts, we have to wait for additional data to be received, which would likely increase the post-October 12th counts. In particular, I expect the counts for the last week of October to rise to 600 or more cases per day before dropping off.

I suspect that this recent rise is the impact of people preparing for and celebrating Halloween. I would expect that the counts will subsequently drop in November and rise again around Thanksgiving.

3. SUMMARY

The social distancing steps that have been taken appear to be effective in keeping the cases per day reasonably low. We should expect the number of cases per day to stabilize at new levels as social distancing measures are lessened, such as with the opening of schools and restaurants. And we should expect that rates will rise as we approach commonly celebrated holidays and subsequently fall off.

So, it looks like the recent rise of infections per day in NYC is to be expected, and not as worrisome as is being portrayed in the media. In NYC, it looks like it's more a ripple than a second wave.

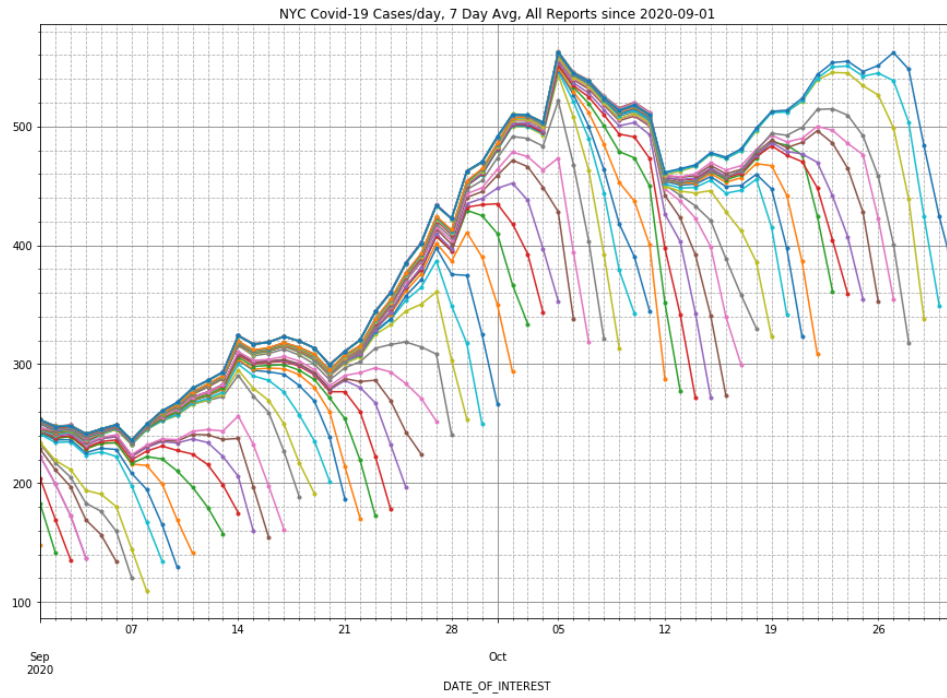


FIGURE 4. Recent history, all reports.

REFERENCES

- [Dur20] Erin Durkin. *New York City sees 'very worrisome' spike in coronavirus infection rate*. Oct. 2020. URL: <https://www.politico.com/states/new-york/city-hall/story/2020/10/29/nyc-sees-very-worrisome-spike-in-coronavirus-infection-rate-1332559>.

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