



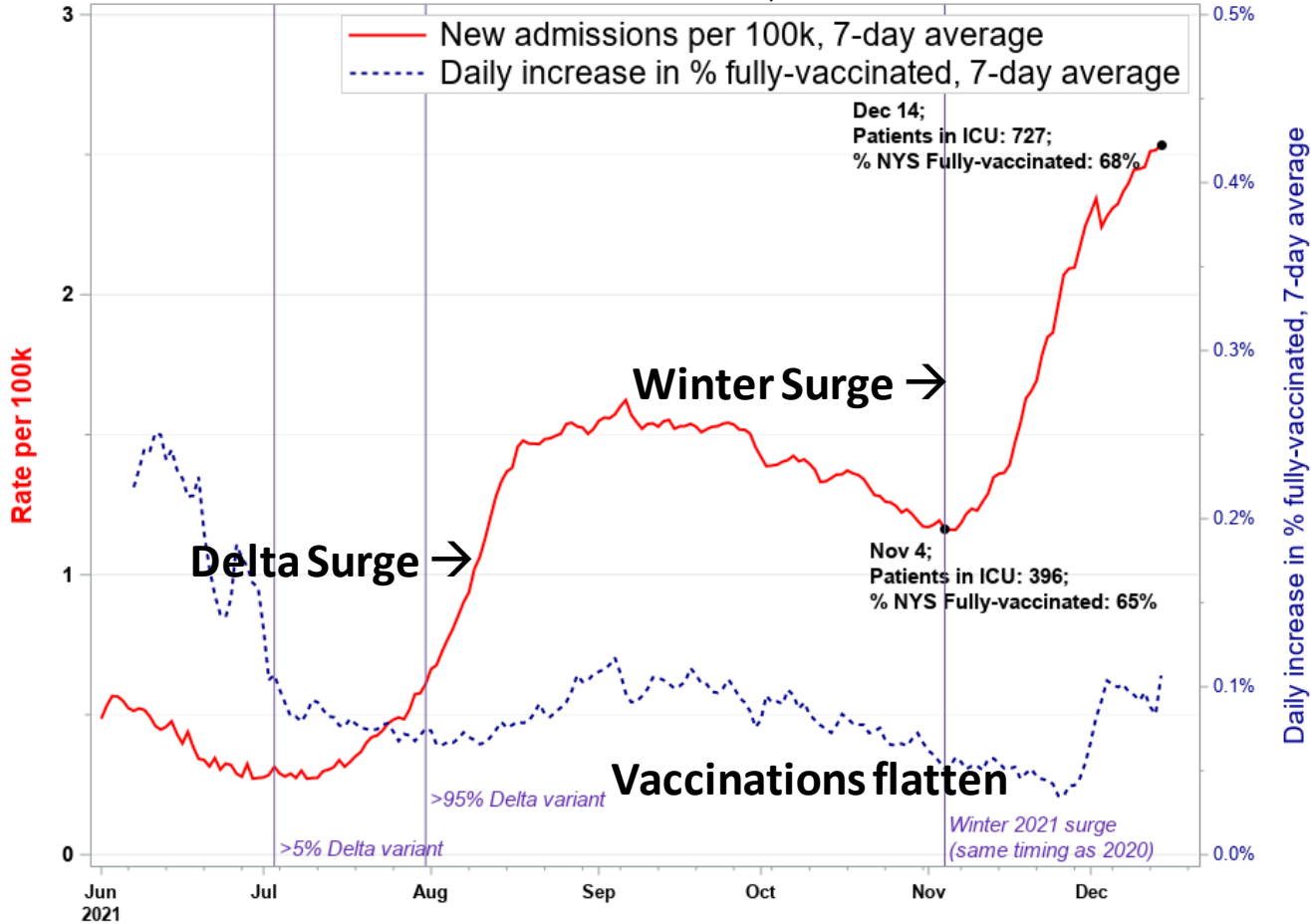
**Department
of Health**

Update on COVID-19

**Mary T. Bassett, MD, MPH
Acting Commissioner of Health**

Thursday, December 16, 2021

New Hospital Admissions per 100k and Pace of Vaccination NYS June 1 – December 14, 2021



How Exponential Spread Works: Less lethal viruses spread widely

THE MATH, PART 2:

Example adapted from Cornell President Pollack

Variant A: Each case infects 2 others (\approx Delta)
10% of infections admitted to hospital

Generation	New cases	New admissions
1	1	0
2	2	0
3	4	0
4	8	1
5	16	2
6	32	3
7	64	6
8	128	13
9	256	26
10	512	51
11	1024	102
Total	2,047	205

Variant B: Each case infects 4 others (\approx Omicron)
1% of infections admitted to hospital

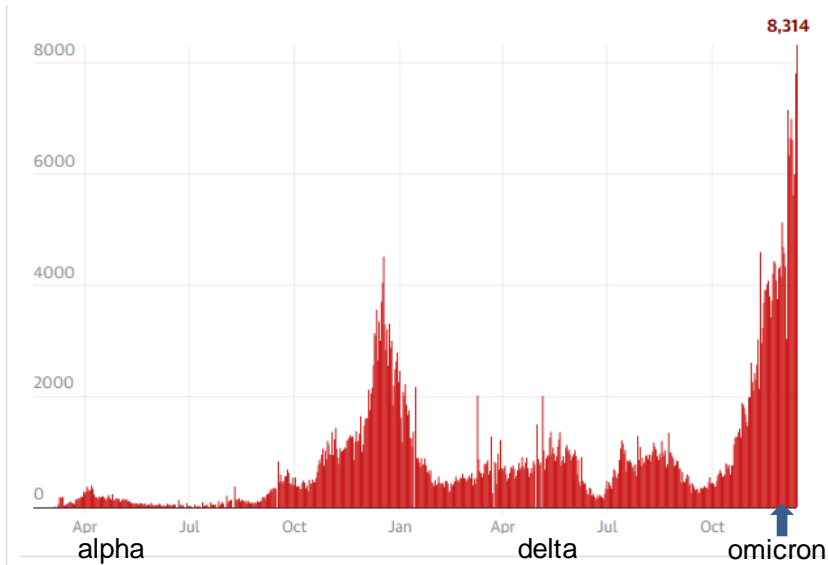
Generation	New cases	New admissions
1	1	0
2	4	0
3	16	0
4	64	1
5	256	3
6	1,024	10
7	4,096	41
8	16,384	164
9	65,536	655
10	262,144	2,621
11	1,048,576	10,486
Total	1,398,101	13,981

Moral: With exponential spread, a variant that is more contagious can mean far more hospitalizations, *even if* less severe per infection.

COVID-19 Cases – Impact of Omicron

DENMARK: Number of new COVID-19 cases per day

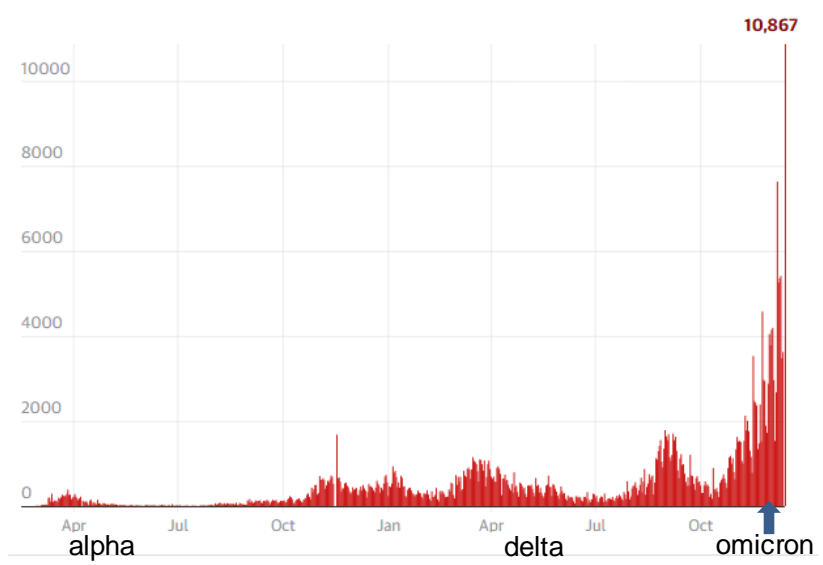
Starting from day of first reported case



Data from Johns Hopkins University at 07:02 UTC 15 Dec 2021

NORWAY: Number of new COVID-19 cases per day

Starting from day of first reported case

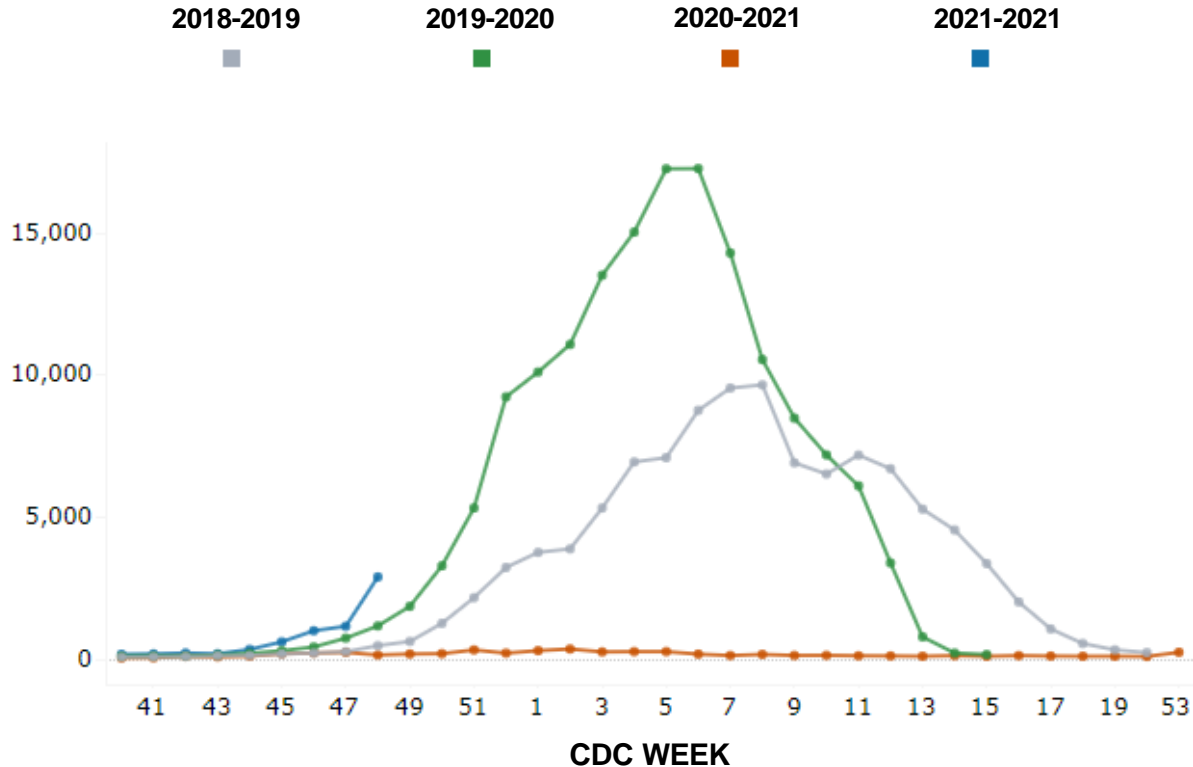


Data from Johns Hopkins University at 07:02 UTC 15 Dec 2021

[Source: Denmark and Norway rush in stricter Covid measures as cases soar | Denmark | The Guardian](#)

Influenza Update

CASES – TREND BY SEASON AND WEEK



Thank you