



COVID-19 Update

Dr Mark Cunningham-Hill

Medical Director NEBGH

Monday April 5th, 2021





Daily new confirmed COVID-19 cases

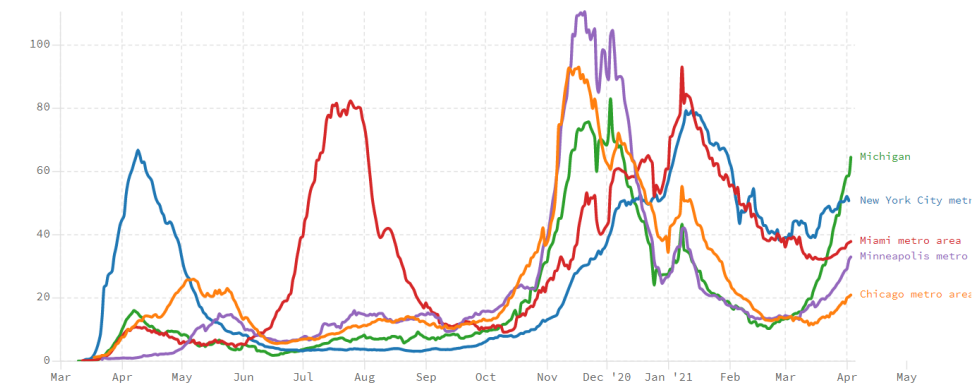
Shown is the rolling 7-day average. The number of confirmed cases is lower than the number of actual cases; the main reason for that is limited testing.



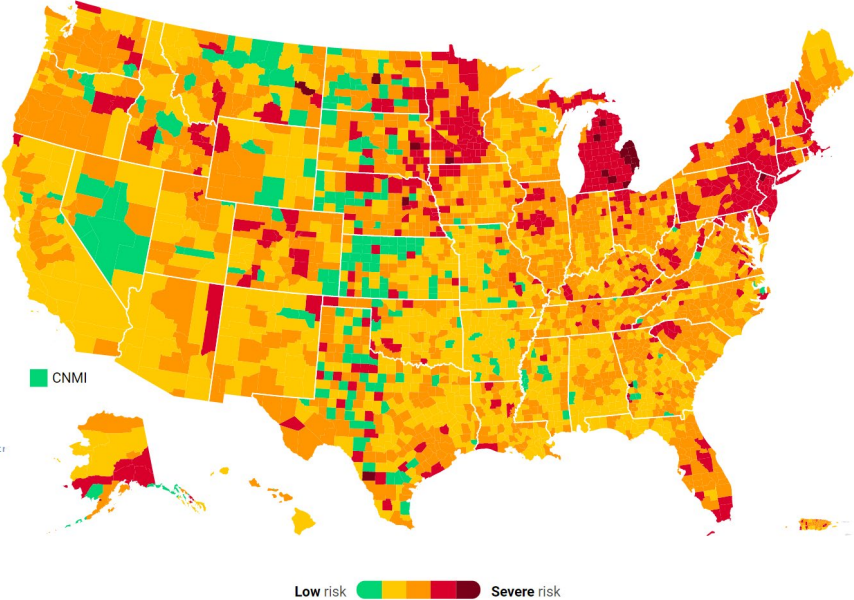
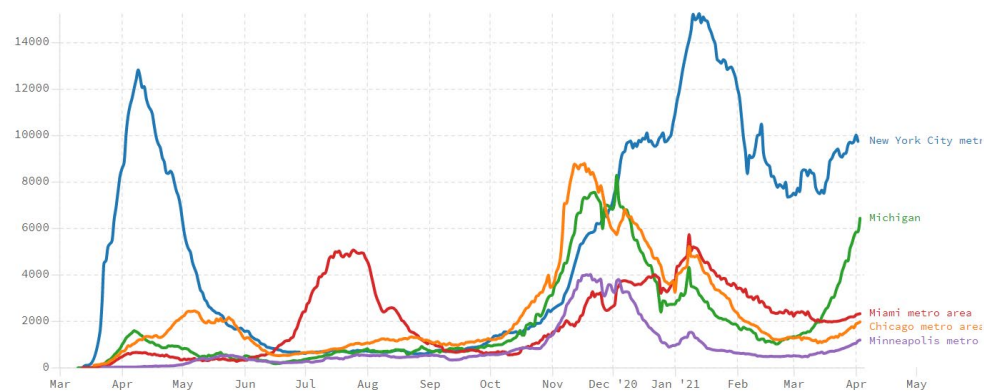
Source: Johns Hopkins University CSSE COVID-19 Data

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CASES PER 100K POPULATION IN NEW YORK CITY METRO AREA, CHICAGO METRO AREA, MICHIGAN, MIAMI METRO AREA AND MINNEAPOLIS METRO AREA

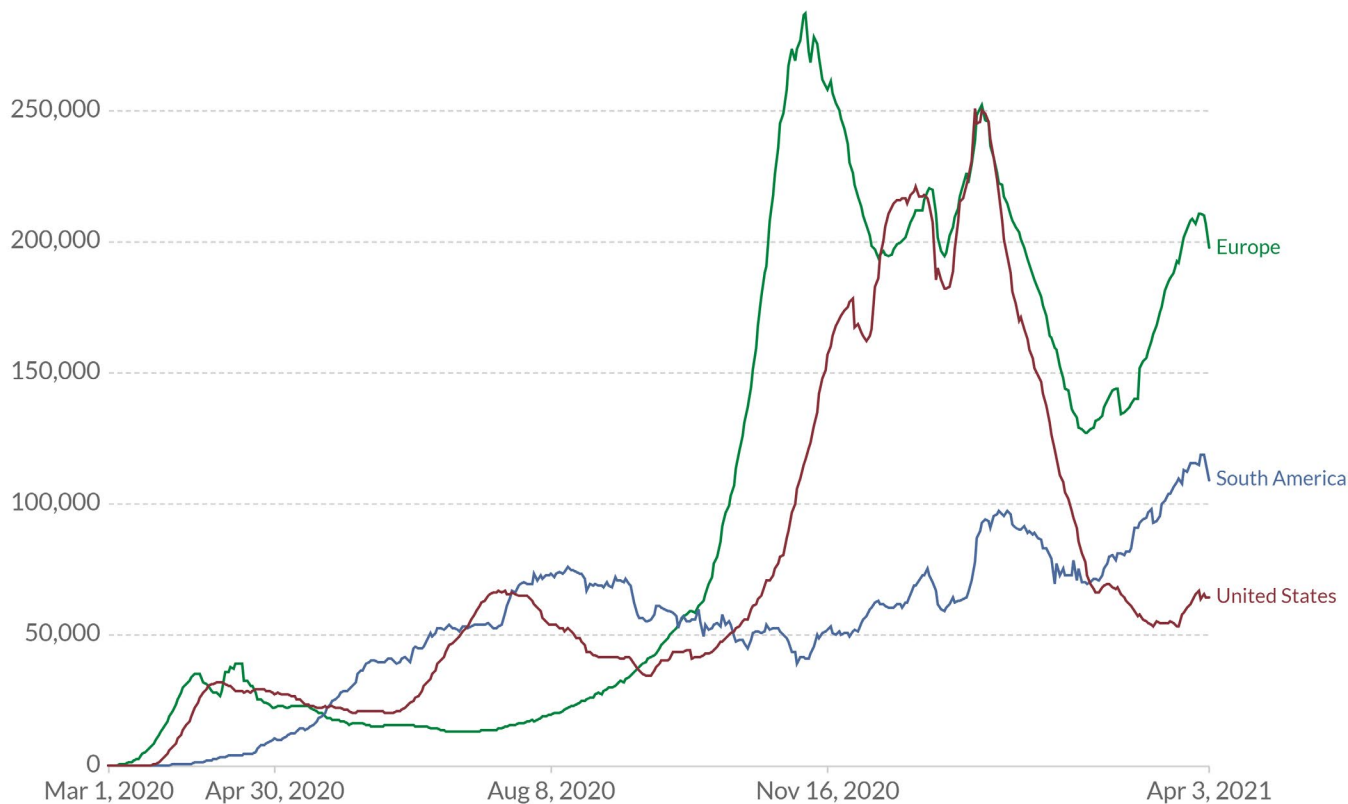


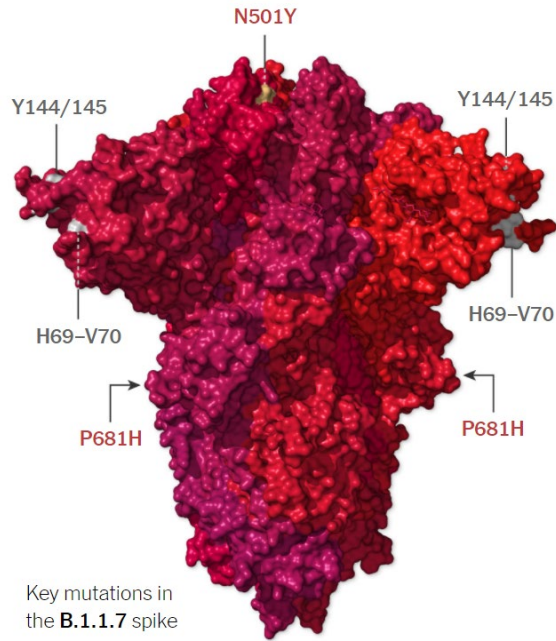
CASES IN NEW YORK CITY METRO AREA, CHICAGO METRO AREA, MICHIGAN, MIAMI METRO AREA AND MINNEAPOLIS METRO AREA



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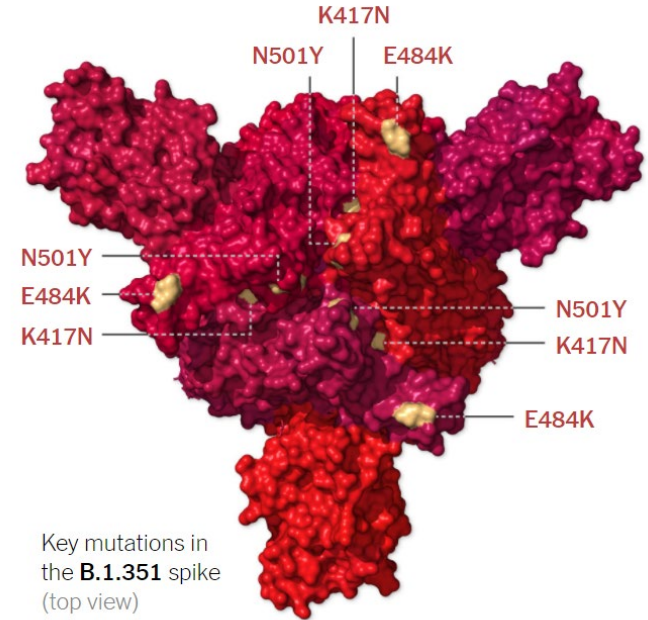


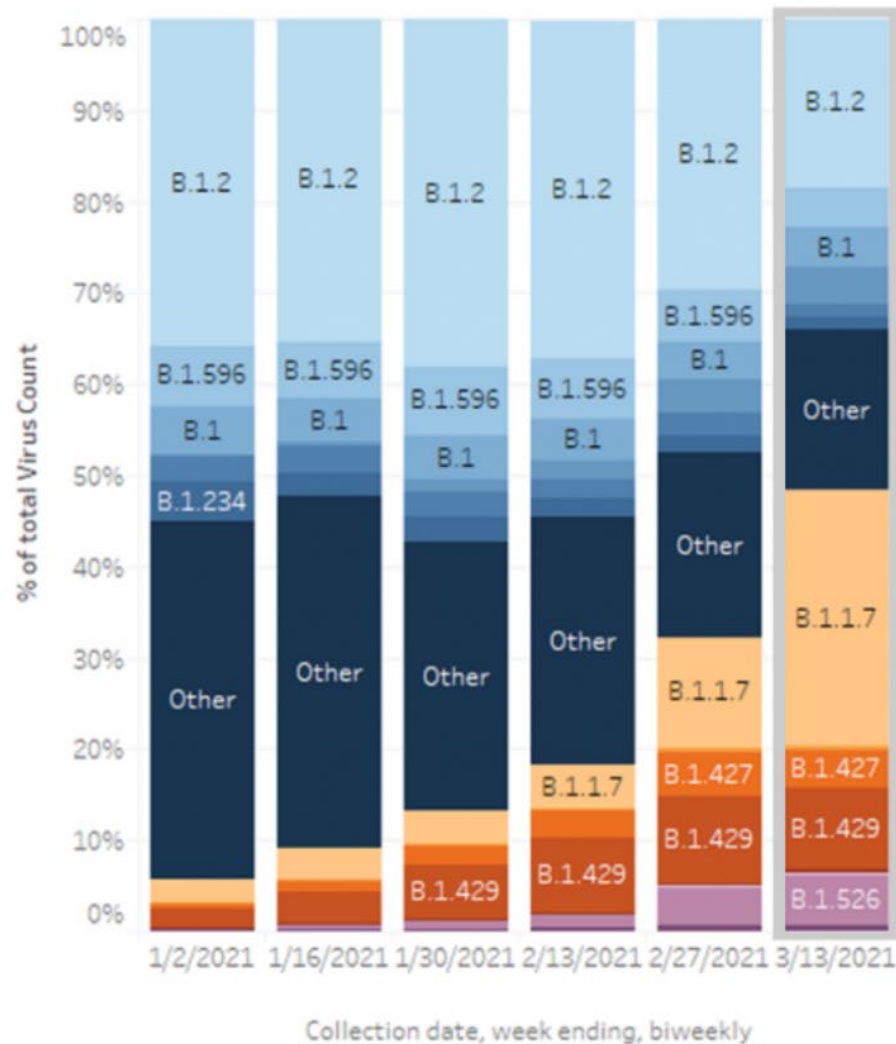
— **N501Y**, which helps the virus latch on more tightly to human cells. But the mutation is not likely to help the virus evade current vaccines.

— **P681H**, which may help infected cells create new spike proteins more efficiently.

— **K417N**, which also helps the virus bind more tightly to human cells.

— **E484K**, which may help the virus evade some kinds of antibodies.





	Lineage	% Total	95% CI	Type
Most common lineages	B.1.2	15.5	12.3 - 19.3	
	B.1.429	8.2	5.9 - 11.4	VOC
	B.1.1.7	32.0	27.7 - 36.6	VOC
	B.1.596	3.7	2.7 - 5.1	
	B.1	4.7	3.3 - 6.6	
	B.1.427	4.2	2.9 - 6.1	VOC
	B.1.526	6.2	3.5 - 10.6	VOI
	B.1.1.519	3.4	2.5 - 4.8	
	B.1.243	1.2	0.8 - 1.8	
	B.1.234	1.6	1 - 2.6	
Additional VOI/VOC lineages	P.2	0.5	0.3 - 0.9	VOI
	B.1.351	0.7	0.4 - 1.3	VOC
	B.1.525	0.1	0 - 0.4	VOI
	P.1	0.4	0.2 0 - 0.8	VOC
Other*	Other	17.6	13.8 - 22.1	

Percentages represent the proportion of viruses belonging to the indicated lineage, based on two weeks of data with collection dates ending March 13.

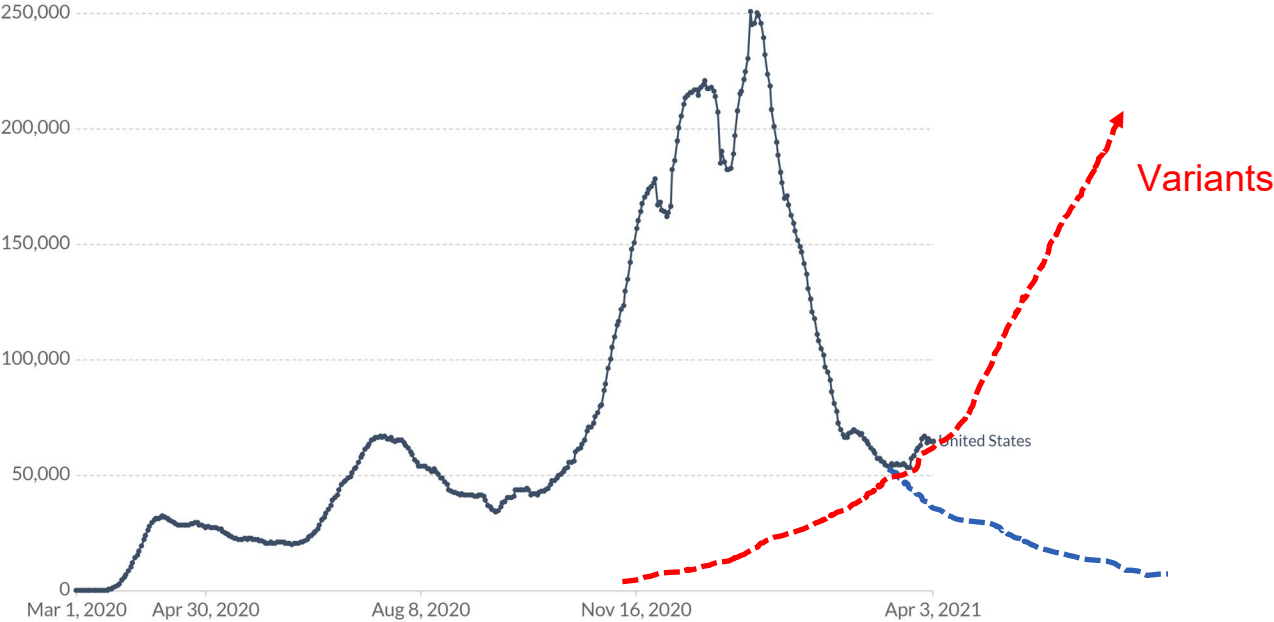
*Other represents >200 additional lineages, which are each circulating at <2% of viruses.

** Most recent data (shaded) are subject to change as samples from that period are still being processed.

Hidden Variant Wave

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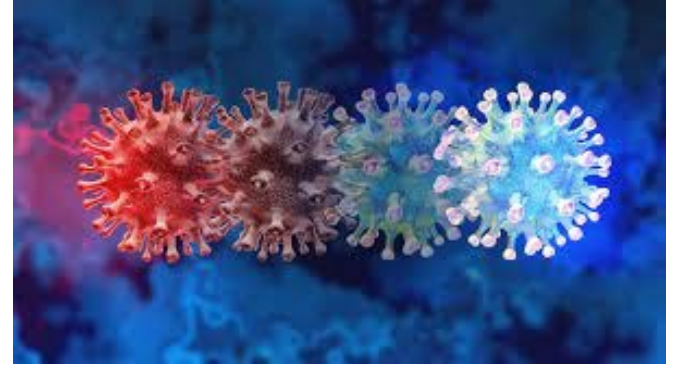


Source: Johns Hopkins University CSSE COVID-19 Data

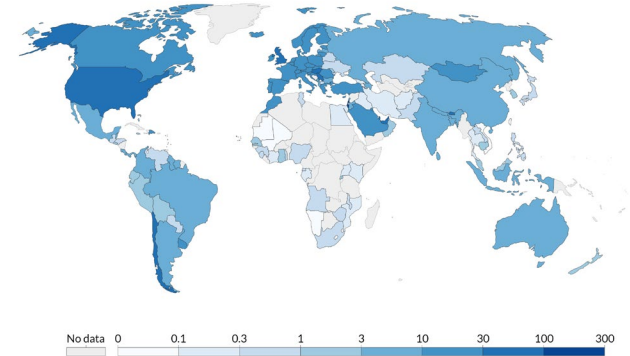
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More Variants

- Variants develop as the virus **replicates** and mistakes are made in its RNA genetic code
- **Time** – the more time there is the more likely new variants will emerge
- Infections in **immunocompromised** or those who are seriously ill and have lingering viral infections
- **Vaccinations** creating:
 - Selective pressure
 - Unevenness of vaccine rollout globally



COVID-19 vaccine doses administered per 100 people, Apr 4, 2021
Total number of vaccination doses administered per 100 people in the total population. This is counted as a single dose, and may not equal the total number of people vaccinated, depending on the specific dose regime (e.g. people receive multiple doses).



Source: Official data collated by Our World in Data - Last updated 5 April, 11:40 (London time)

OurWorldInData.org/coronavirus • CC BY



Variants

Bad
behavior

Vaccines

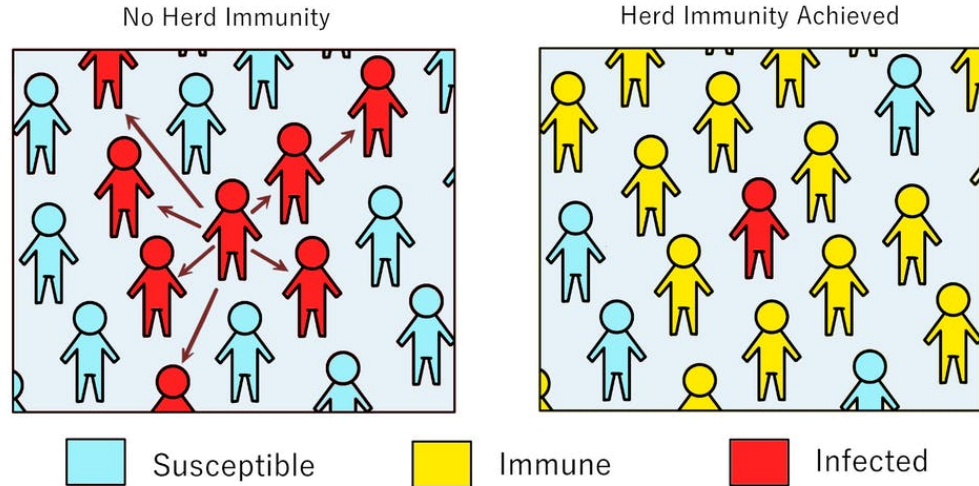
Is Herd Immunity the Finish Line?



Pathway to Herd Immunity

- Estimated to be 60–90% of the population gaining immunity, either through vaccinations or past exposure to the virus
- Challenges/Questions:
 - Vaccines need to stop disease and block transmission – latest data is encouraging
 - Unevenness of vaccine roll out globally
 - How long immunity lasts from infection and/or vaccination
 - New variants
 - Vaccine hesitancy
 - Children not vaccinated
 - Vaccines may change peoples' behavior

COVID-19 and HERD IMMUNITY



Vaccine Hesitancy











	January	March
Black	41%	24% ↓
Latinex	34%	22% ↓
White*	31%	26% ↓

Percentage of people who say they **will not** get vaccinated

* Varies – higher in white rural areas and as high as 50% for White Evangelicals

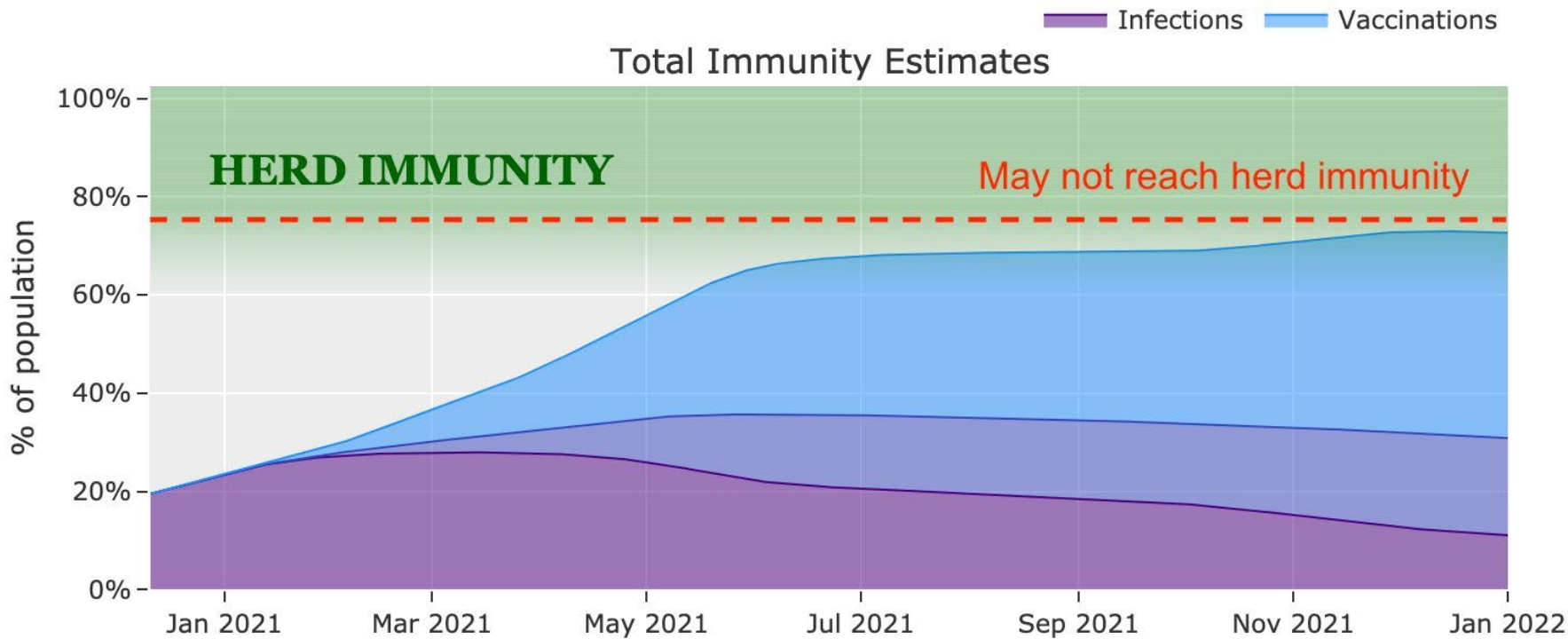
Pathway to 'Normality'

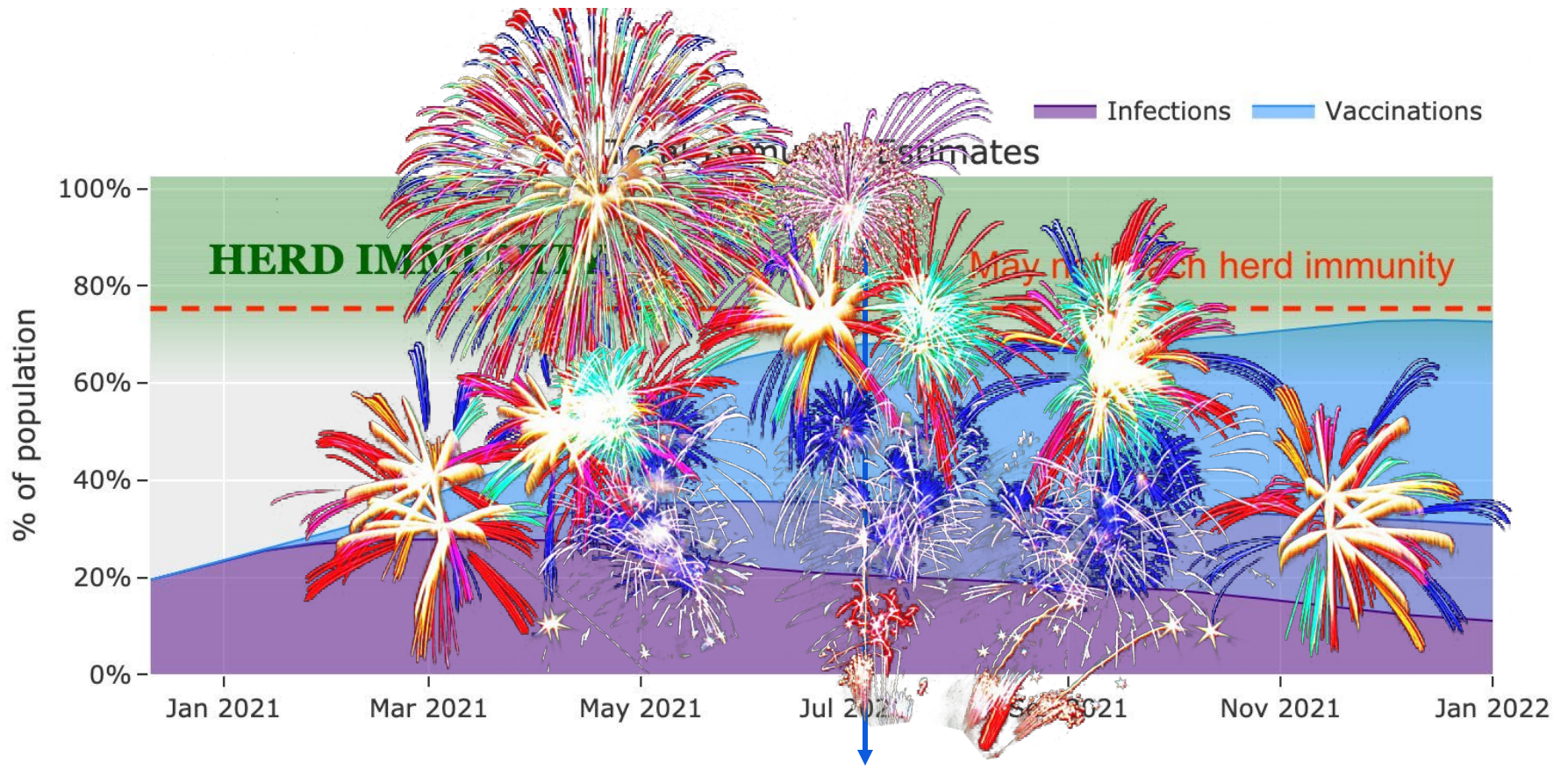
- If herd Immunity endgame is not realistic – Then what is the endgame?
- The endgame should be the widespread availability of COVID-19 vaccines that virtually eliminates severe illness
- COVID-19 becomes endemic
- Maybe periodic surges
- Variants versus vaccines

STEP 1 8 March		29 March	STEP 2 No earlier than 12 April At least 5 weeks after Step 1	
 EDUCATION			 EDUCATION	
8 MARCH				
<ul style="list-style-type: none"> Schools and colleges open for all students Practical Higher Education courses 			<ul style="list-style-type: none"> As previous step 	
 SOCIAL CONTACT			 SOCIAL CONTACT	
8 MARCH		29 MARCH		
<ul style="list-style-type: none"> Exercise and recreation outdoors with household or one other person Household only indoors 		<ul style="list-style-type: none"> Rule of 6 or two households outdoors Household only indoors 	<ul style="list-style-type: none"> Rule of 6 or two households outdoors Household only indoors 	
 BUSINESS & ACTIVITIES			 BUSINESS & ACTIVITIES	
8 MARCH		29 MARCH		
<ul style="list-style-type: none"> Wraparound care, including sport, for all children 		<ul style="list-style-type: none"> Organised outdoor sport (children and adults) Outdoor sport and leisure facilities All outdoor children's activities Outdoor parent & child group (max 15 people, excluding under 5s) 	<ul style="list-style-type: none"> All retail Personal care Libraries & community centres Most outdoor attractions Indoor leisure inc. gyms (individual use only) Self-contained accommodation All children's activities Outdoor hospitality Indoor parent & child groups (max 15 people, excluding under 5s) 	
 TRAVEL			 TRAVEL	
8 MARCH		29 MARCH		
<ul style="list-style-type: none"> Stay at home No holidays 		<ul style="list-style-type: none"> Minimise travel No holidays 	<ul style="list-style-type: none"> Domestic overnight stays (household only) No international holidays 	
 EVENTS			 EVENTS	
<ul style="list-style-type: none"> Funerals (30) Weddings and wakes (6) 			<ul style="list-style-type: none"> Funerals (30) Weddings, wakes, receptions (15) Event pilots 	

UK Roadmap

So, when do we return to 'normal'?





July 4th at 4:45 pm EDT!



Questions

Upcoming NEBGH virtual events:

- **Apr. 8:** Suicide Prevention – Out of the Shadows
- **Apr. 12:** NEBGH Medical Director's Weekly Update w/ Harvard Epidemiologist Dr. Michael Mina
- **Apr. 19:** NEBGH Medical Director's Weekly Update: Invite your CHRO, CFO and Others!
- **Apr. 22:** Prevention and Wellbeing Reboot 2021