

## Shanghai Unlock : Victory on the Mammoth !

While the Covid-19 daily incidence in Shanghai has become residual, the reopening finally effective, it is time **to take** stock for the mega-cluster or the Shanghai Mammoth. New **article** from the volunteer team of Solidarity Covid – Expats in China.



*Sculpture at the entrance to the University of Lincoln – Nebraska – USA, taken in 2020. Back to normal from the land of **living-with-it**.*

We will not make a socio-economic assessment which will leave a very bitter taste to many, but we will try to explain things, because it becomes complicated with the evolution of the variants, the choices to get vaccinated or not, the rates of vaccination by age group and one can quickly be mistaken in the conclusions.

We heard a lot that the lockdown was because China refused to use Western mRNA vaccines. We are not going to comment on this, perceived as purely political, but to explain why it would not have changed much to the Shanghai lockdown if all the seniors had been vaccinated BioNTech rather than inactivated virus vaccines, provided they had been vaccinated at all.

### Mammoth from another era

Vaccine efficacy scores is very subjective, as we know, because they are biased by the epidemic situation in the country.

A year ago, we were examining the efficacy rates against symptomatic forms of the original / Alpha strain and we were already seeing variations from one country to another of 50% to 84% reduction in the risk of the symptomatic form for Sinovac. At that time we already knew that the vaccine only

protected against serious forms and purely asymptomatic forms were rarely detected, and rarer than with Omicron, in the countries of clinical studies. The incidence bias at the time of the study was therefore high.

**Efficacy of various vaccines - scope of trial - incidence at time of trial**  
 Carmen Castells Rusinol - Carole Gabay Solidarity Covid - Expats in China  
 source : clinicaltrial.gov

efficacy criteria : symptomatic covid19 7-28 days after 2nd dose

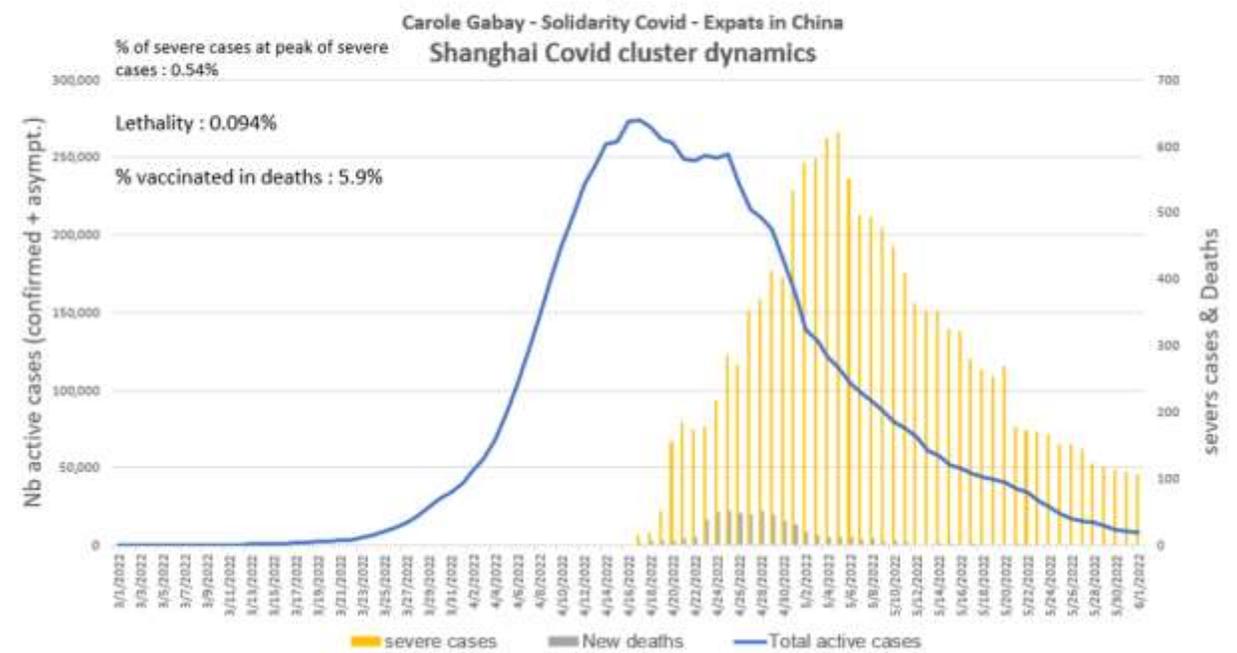
source Worldometer - average daily nb new cases / 1 M Pop, weighted across countries

Vaccine	scope of trial	efficacy	weighted incidence at time of trial
<b>Western vaccines (approved or submitted to US FDA / EU EMA)</b>			
Pfizer/Biontech	18810 patients in USA, Argentina, Brazil, South Africa from 7/27/2020 to 10/9/2020	95%	152
Moderna	30420 patients in USA from from 7/27/2020 to 10/23/2020	94%	147
<b>Chinese vaccines</b>			
Sinovac	efficacy rate 14 days after 2nd vaccination 7/21/2020 - 12/30/2020		
Phase III	Turkey	assumption on dates of trial, however these are	84%
	Brazil	very populated and large countries. Unlikely the trial was carried	50%
	Indonesia	all over the territory	65%
real world	Chile	real world data on vaccination campaign time 5 Mio double vaccinated	67%
Sinopharm Beijing	countries trialling the jab include Bahrain, Egypt, Jordan, and Peru	79%	42
	UAE	no dates, yet authorities decide to give 3 jabs	86%

This bias theoretically disappears for the calculation of efficacy against severe forms and deaths, because once the patients are infected, it is the risk factors and vaccine protection that will play a role in the deterioration of the patient's condition. Theoretically yes, but in reality, the saturation effect plays a crucial role, because the high incidence will generate saturation in hospitals and degraded care conditions.

### Mammoth Crushes the Codes

In Shanghai, very quickly they gave up hospitalizing all positive cases, bringing all local or imported cases to CT-scan. It was the inexorably chaotic start-up of the quarantine centers that posed a problem: hasty **manufacture by** large numbers of workers from other provinces who left by bus until mid-April, generating several dozen contaminations among them, fear of the patients **faced with** spartan conditions in the centers, prevarications on the families... During this time, the condition of certain patients deteriorated, and it was sometimes too late for some of them who did not go **into** the severe cases category, but directly **into the death toll**.



Once the peak of contamination was reached, a strange phenomenon happened (we even see the shape of the mammoth!), medics began to examine the patients or rather take care of those who were suffering in the aisles of the quarantine centers, a large number of so-called "asymptomatic" cases were converted to confirmed and it was during this week that we also reached the peak of deaths.

### A Mammoth is very misleading

We can almost be certain that these deaths are attributable to this delay in **effective** care, because before the mega clusters, there had only been post Wuhan 2 (or even 3 with a questionable case at the start of 2021) deaths for a total of 13,766 local cases (from 1/1/2021 to 28/2/2022) and 36,200 **imported** cases since 2020. The latter are either younger (a maximum of 1.4% of severe cases on active cases, lower than the peaks of local outbreaks of up to 6.4% with Delta) but we still had several sub-clusters of elderly (in Nanjing, Yangzhou, Tonghua) and a (non-exhaustive) total of 1515 patients aged 60 and over out of 10112 local cases for which the age was provided.

Epidemics KPIs by semester	6/4/2022 21:55			filter on Population > 2 Million & deaths >0 - terri					
	epidemic KPIs on S1 2022 to date			epidemic KPIs on S2 2021			Epidemics KPIs on S1 2021		
	Lethality (deaths on cases)	share of severe cases @ peak	average daily Incidence vs Pop	Lethality (deaths on cases)	share of severe cases @ peak	average daily Incidence vs Pop	Lethality (deaths on cases)	share of severe cases @ peak	average daily Incidence vs Pop
Carole Gabay for Solidarity Covid - Expats in China									
China - Wuhan	0.00%	0.00%	0.10	0.00%	0	0.04	0.00%	0	0.00
China - Hubei exc Wuhan	0.00%	0.00%	0.04	0.00%	0.0%	0.01	0.00%	0.0%	0.00
China - imported	0.00%	0.06%	0.69	0.00%	1.4%	0.26	0.00%	1.4%	0.17
China - out of Hubei	0.09%	2.14%	3.52	0.00%	2.7%	0.02	0.08%	6.4%	0.01
Hong Kong - imported	0.00%		2.02	0.00%		0.52	0.28%	3.8%	0.52
World exc China	0.34%			1.4%	-		2.1%		

If we apply the rates without taking hospital pressure into account, Shanghai's case fatality rate (0.094% in 8th position worldwide with a world average of 0.34% over the 1st half of 2022) should have resulted in 36 deaths among imported and 13 on local cases. 2 out of 49 expected deaths with a very low fatality rate, this is proof that nothing is comparable to all other things being equal with this pandemic...

We will find the effect of confinement in the hospital data on this Shanghai wave in comparison with the European countries for which we can find the data in open source.

### Covid-19 epidemic dynamics in Shanghai vs Europe - From January 2022

Solidarity Covid-Expats in China	Nb of Deaths 2022	Peak of Hospital occupancy	Hospital admission	Deaths / Hospital admissions	Deaths / Peak hospitalized	Max ICU on Peak Hospitalized	Hospital admission on total new cases
Russia	71,573	0	318,455	22.5%	-		4.1%
Italy	29,814	21,728	900,620	3.3%	137%	7.9%	7.7%
Germany	27,944	0	1,194,530	2.3%	-		6.3%
United Kingdom	26,063	20,544	1,630,723	1.6%	127%	4.4%	18.1%
France	25,222	33,447	1,639,794	1.5%	75%	11.9%	8.1%
Poland	21,028	19,636	0	0.0%	107%		
Spain	17,311	17,213	1,059,964	1.6%	101%	13.1%	16.7%
Greece	9,289	0	48,643	19.1%	-		2.1%
Hungary	7,720	5,291	0	0.0%	146%		
Romania	7,049	13,049	0	0.0%	54%	9.7%	
Bulgaria	6,426	6,274	0	0.0%	102%	10.0%	
Czechia	4,384	4,326	267,204	1.6%	101%	13.8%	18.3%
Portugal	4,190	2,560	0	0.0%	164%	7.0%	
Sweden	3,697	2,241	0	0.0%	165%	5.4%	
Slovakia	3,607	2,908	0	0.0%	124%	14.6%	
Croatia	3,576	2,229	16,613	21.5%	160%		3.8%
Belgium	3,506	4,329	203,884	1.7%	81%	12.0%	9.8%
Serbia	3,440	4,547	0	0.0%	76%	4.2%	
Denmark	3,139	1,762	202,767	1.5%	178%	4.7%	8.5%
Austria	3,043	3,315	0	0.0%	92%	9.7%	
Finland	2,676	1,084	0	0.0%	247%	6.0%	
Lithuania	1,747	1,737	0	0.0%	101%		
Switzerland	1,595	2,040	92,142	1.7%	78%	15.1%	3.9%
Netherlands	1,551	1,933	134,148	1.2%	80%	24.6%	2.6%
Norway	1,514	638	5,447	27.8%	237%		0.5%
Ireland	1,416	1,624	15,895	8.9%	87%	6.0%	1.9%
Latvia	1,296	1,211	12,631	10.3%	107%	9.5%	2.3%
Slovenia	1,075	812	6,189	17.4%	132%	21.2%	1.1%
Estonia	643	701	6,150	10.5%	92%	3.7%	1.8%
Shanghai	588	24,597	58,000	2.4%	2.4%	2.5%	9.3%
Cyprus	429	270	2,638	16.3%	159%	15.6%	0.8%
Malta	246	131	1,132	21.7%	188%	3.1%	2.5%
Luxembourg	168	88	498	33.7%	191%	25.0%	0.3%
Iceland	84	100	450	18.6%	84%	8.0%	0.3%

Source : ShanghaiFabu - OurWorldinData European CDC

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*On all indicators, the Shanghai outbreak is out of the ordinary, and especially the number of deaths on the peak of hospitalizations, measured when the pressure is the worst ; 58 000 hospital cumulated admissions (i.e. 9.3% of positive cases) , longer hospitalization (until the PCR is negative, to be compared with France: peak of occupancy at 33,447 for 1.64 million admissions...)*

Hospital pressure is the main aggravating factor in deaths, and will impact the lethality rates measured in the studies. In Hong Kong, hospital capacity has been extended to 12,000 beds for 1.2 million infections. In Shanghai, a total of 58 000 people were hospitalized (excluding the Fangcangs / quarantine centers), up to 24,600 beds occupied on April 23: that makes Shanghai catered for twice as many hospital beds for half the number of infections than in Hong Kong... This is what makes the lethality rates

measured in Hong Kong well beyond the final assessment of Shanghai, whether 62% (announcement by the municipality, inconsistent with the data, we have already explained) or 87% of 60 years + (more probable hypothesis) were vaccinated. We have therefore taken the model from a previous article, updated the data, and added the scenario that seniors have been vaccinated with BioNTech since the Hong Kong lethality data give significantly better results at 2 doses on the elderly, equivalent on all other groups. The difference in deaths between the BioNtech model and the Chinese vaccine model (1530-1174 = 350) is much lower than the difference between the final assessment and the Chinese vaccine model (1530-588=942 at 87% vaccination rate).

Shanghai Covid BA.2 wave model  
Carole Gabay  
Solidarity Covid - Expats in China

Age group	Vaccination status with inactivated vaccine	Lethality H K Health Protection Center			assumptions based on various publications					
		Shanghai senior Population	Sinovac vaccination	BioNtech Vaccination	Actual latest nb Covid-19 cases Shanghai from March 1 2022	High vaccination rate % pop. by vaccination status	Expected nb of deaths	Low vaccination rate % pop. by vaccination status	Expected nb of deaths	BioNtech high vaccination scenario
total 60Y +	total	3,269,855			125,371		1,530		2,792	1,174
	2 doses					86.7%	706	62%		
	3 doses					52.8%		38.1%		
80+ Y	Unvaccinated	587,804	16.47%	16.47%	12,537	31.3%	647	50.9%	1,052	647
	1 dose		7.19%	5.73%		10.2%	92	7.3%	66	74
	2 doses		1.92%	4.36%		34.1%	186	24.4%	133	82
	3 doses		1.21%	1.09%		24.3%	37	17.4%	26	33
70-79Y	Unvaccinated	1,078,156	5.56%	5.56%	41,749	6.9%	159	33.4%	776	159
	1 dose		1.52%	1.08%		5.1%	32	3.7%	23	16
	2 doses		0.69%	0.39%		34.1%	98	24.4%	70	40
	3 doses		0.21%	0.09%		53.9%	47	38.5%	34	14
60-69 Y	Unvaccinated	1,603,895	2.10%	2.10%	71,086	1.2%	17	30.1%	449	17
	1 dose		1.61%	0.43%		2.6%	29	1.8%	21	6
	2 doses		0.69%	0.39%		33.7%	165	26.5%	130	74
	3 doses		0.04%	0.04%		62.5%	18	41.6%	12	12
total unvaccinated deaths					554		706		516	824
total Actual deaths					588					

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Sources : National Statistics Bureau - Shaghaifabu - Hong Kong Centre for Health Protection of the Department of Health May 25 2022  
National Health Commission Mainland China March 2022 - Biomed Central Springer nature publication October 15 2021  
data from Shanghai press conference April 18-20 2022

*This model, set up in the article Encounter in Terra Incognita from several official sources from China and Hong Kong, is here updated and with the addition of the BioNtech scenario. All the scenarios are far*

*above the “Actual” deaths (588 deaths) because they are based on lethality rates measured in a context of hospital saturation.*

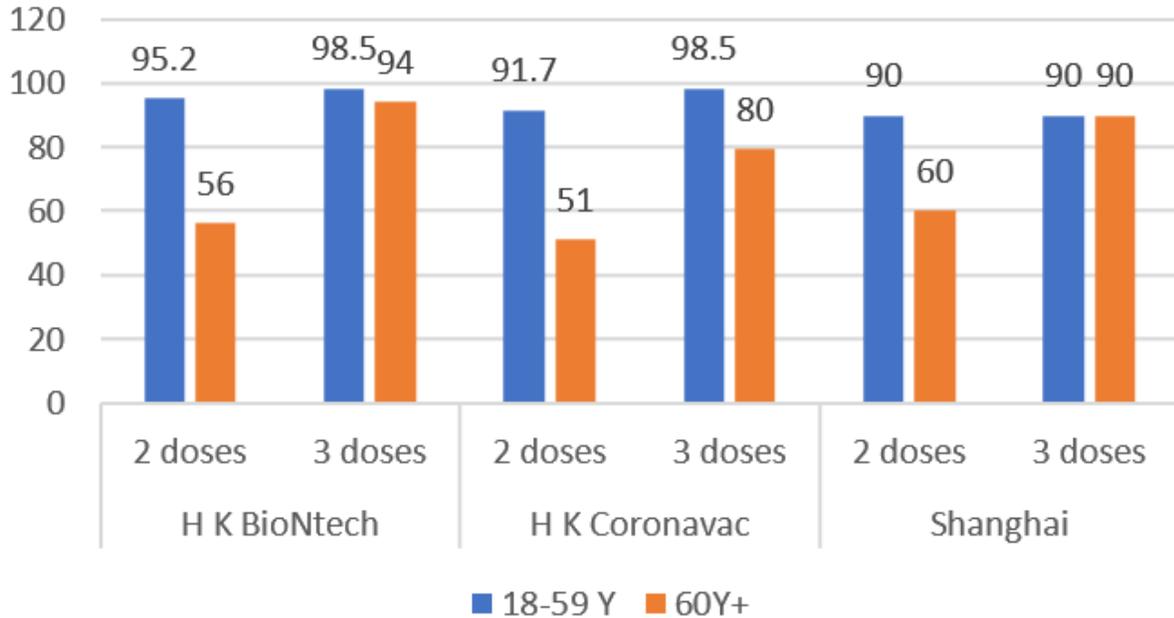
Another consequence of the saturation of hospitals in February / March in Hong Kong, more deaths among those vaccinated: **28%** of deaths had received at least one dose of vaccine more than 14 days earlier, compared to **5.9 %** in Shanghai. For the Shanghai megalopolis, this is data that we collected every day from the municipality's publications and are the only ones to present it aggregated.

#### Mini-outbreak or mammoth, it's the same virus in the body

With the deaths, we are now fixed on the pitfalls in terms of the effectiveness of vaccines. Let's check the severe cases, because there the probability of developing a severe form will be influenced first and foremost by risk factors and vaccination, and lastly by early medical treatment, usually immediate in China zero Covid from screening, delayed in Shanghai. National preference has also been applied to treatments and that of Pfizer (Paxlovid) which must be administered in the first days of infection in vulnerable people has been approved in China (unlike the BioNTech / Fosun vaccine, still pending), delivered, but prescribed in a very controlled manner. We have less data but let's look at the data published by 2 studies from Hong Kong and the municipality of Shanghai.

## Severe Disease risk reduction rate

### Solidarity Covid - Expats in China



Sources : MedRXiv Shanghai press conference May 28 2022

Vaccine effectiveness of two and three doses of BNT162b2 and CoronaVac against 2 COVID-19 in H K - May 2022, base 5294 severe cases / deaths

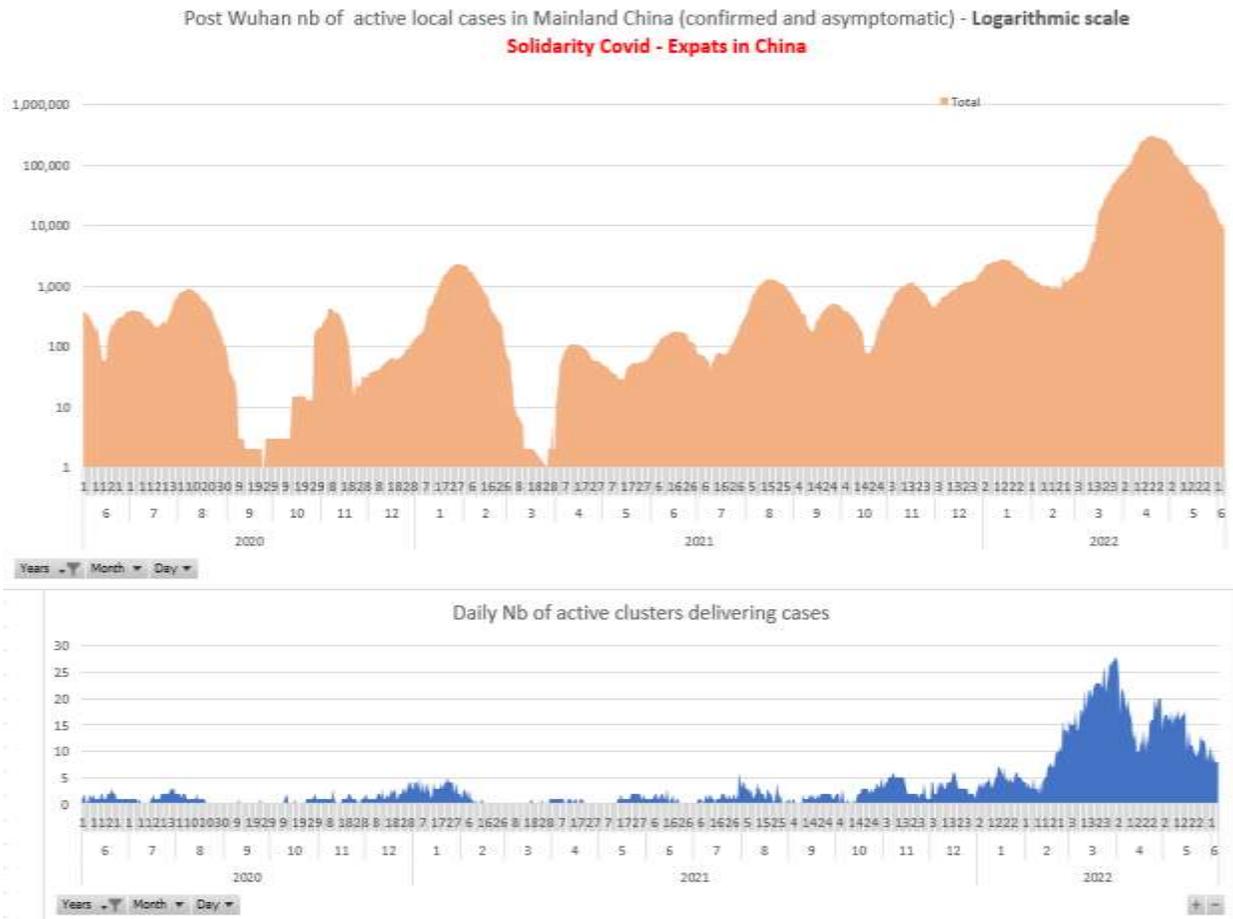
H K University Med - end March 2022 @180 days from last job

*In the group of elderly people, the gap in reduction of the risk of developing a serious form that we recalculated from 2 studies in order to align them with the same segments as the data communicated for Shanghai is much lower than the difference in deaths, but still significant in the elderly at 2 and 3 doses. On the youngest, no convincing difference in favor of Shanghai care: this was not what it was on the small outbreaks, and the young subjects had been vaccinated for longer than in Hong Kong.*

Lower incidence, slightly fewer severe forms on the elderly, far fewer deaths with an average age of 81.1 years, well above the average death rate for Wuhan (70.1 years), this is **the benefit, very expensively paid, for the** confinement of 40 to 80 days depending on the residences / districts in Shanghai.

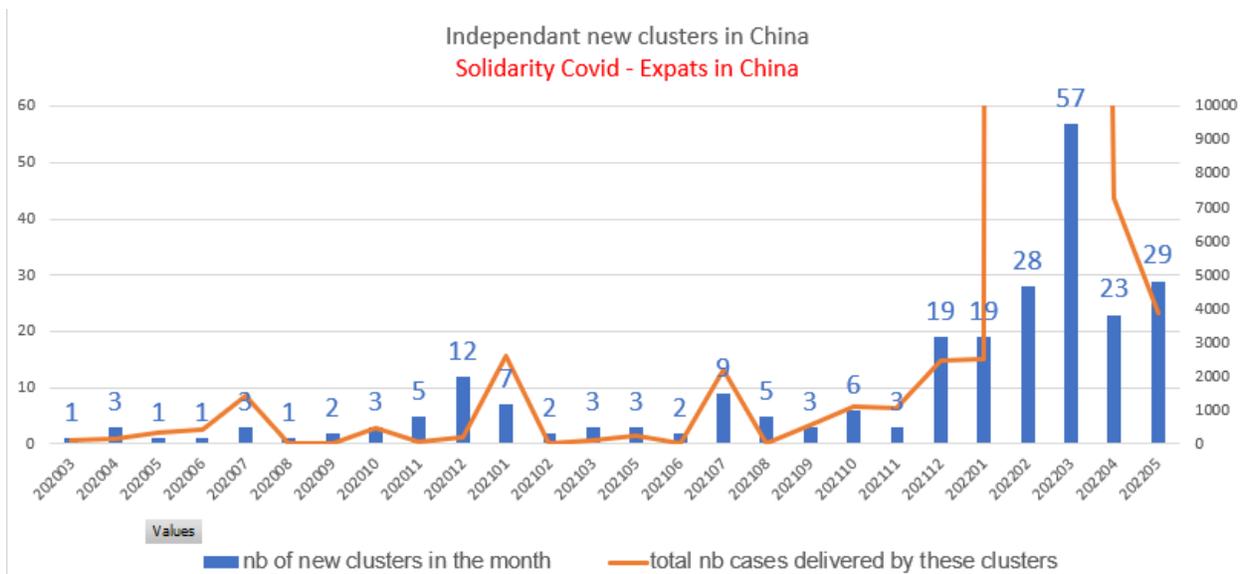
[Locked up the mammoth in Jurassic World](#)

Will the Zero Covid strategy applied in Shanghai **drive** the virus out of China? The vaccinated and immunized world continues to **rebound** and variations with mortality now under control (0.34%), a sort of upside-down Jurassic World where mammoths will reproduce outside of China, a species extinct in China... It is a bet on the future that many foreigners in China did not want to take, with a sad exodus of foreigners which is accentuated even more at the idea of having to return to confinement at the slightest rebound.



*Since the Delta variant, it is a long succession of bumps with increasing peaks, presented here on a logarithmic scale. Peak of active cases on 4/21 with 296,000 patients in isolation; peak in the number of active outbreaks across China on March 31 with 27 suspected independent outbreaks delivering cases on the day*

There will be other outbreaks in China for sure, there have been 139 independent outbreaks and **almost 21,000** cases in China between Wuhan and the Shanghai Mammoth, and these cannot be expected to come up against infectious immunity as has been the case so far outside of China with variant peaks much lower than in January. Chinese authorities will immediately release the arsenal of prevention, quarantines, screening as they have done, but too late for Shanghai (schools closed at 155 cases per day, six days earlier retrospectively in Beijing) and prevent that the 108 independent outbreaks (with no trace of human transmission from one city to another) hatched since the beginning of March 2022 with **33 939** cases do not become mammoths. It is rather successful but there again at the cost of confinements and slowdowns of multiple activities.



The 57 new outbreaks in March, 23 outbreaks in April, 29 outbreaks in May, 1 in June to date, did not come out of nowhere, some of them are linked to the circulation of the virus from Mammoths without human transmission... Hence, if the mammoth is extinct there will be fewer outbreaks due to the mechanism of communicating vessels... As for another Mammoth cluster in Shanghai in the future, this was the first one since 2020, we had to find ourselves in a situation of saturation of imported cases to end up with a Mammoth (up to 144 imported cases a day in Shanghai March 3). Fortunately, the trajectory of the pandemic in the world does not take a similar path as with Omicron BA.1, mainly thanks to recently acquired immunity. The Sanitary Great Wall of China against Covid will work again against monkeypox or other epidemics.

**Carole Gabay** has been in family expatriation in Shanghai since 2013. A graduate of ESSEC, with a long career in market research and data management, she found herself involved from the start of the epidemic in China in the tracking of Covid data with the project of the volunteer team Solidarité Covid – Français de Chine, an initiative from UFE-Shanghai.

Articles, CovidFlow interactive pages, daily posts archived on [www.solidaritecovid.com](http://www.solidaritecovid.com)

Or by joining one of the wechat groups: contact UFE Shanghai, Doozyben

Support the volunteer team who work very long hours to maintain databases and analysis  
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