

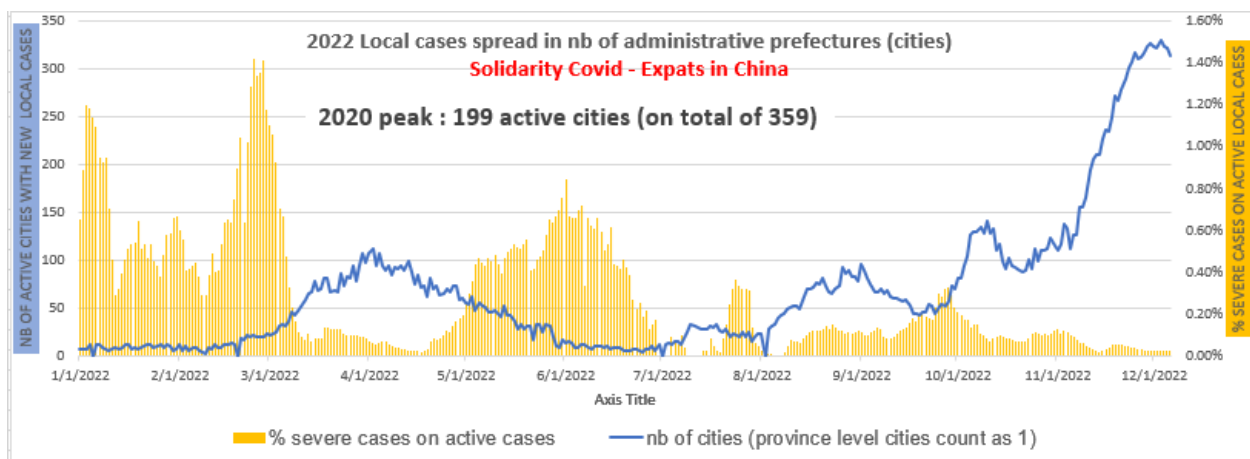
Shanghai, January 3 2023

Covid in China: Big Bang in joy and pain

Both hoped and feared by most, China has finally agreed to face the pandemic and acquire her collective immunity. From mid-November, struck by an unprecedented surge in cases in multiple cities, rebounds and weariness of confinements, the outcome seemed inevitable. The volunteer team of Solidarité Covid – Expats in China immensely relieved after months of incessant overload delivers you its analysis of the facts.

back against the wall

Since November 16, all provinces in China have been delivering cases daily, the number of affected cities has been steadily rising, far surpassing the peak of the Wuhan epidemic spread. As of December 3, there were 330 prefectures delivering cases.



Hopeless progression of the spread, drop in the weight of severe cases in the ascending period, a totally unprecedented situation and which does not suggest a way out.

There have been signs: the cities of Shijiazhuang and Guangzhou had relaxed restrictions by no longer requiring a PCR to move around the city. The high-risk areas remained confined, but we could see on the reports on societal cases how insufficient it was to limit the restrictions to the sectors at risk, therefore the door was open to an increase in contamination outside these sectors. In Beijing around December 5, many street PCRs do not return in mobiles. These are abnormal tube tests of 10, they have become too numerous, the testing staff had to go and recheck them all, put the 10 in temporary confinement... the mixed tube model no longer works, and as a consequence the test booths got dismantled in Beijing. The situation is therefore uncontrollable without strict generalized confinement. And there it is no longer a confined megalopolis as in the spring to which all the provinces come to the aid to ensure supplies and care, but dozens of cities badly affected.

total local cases by province before December 7

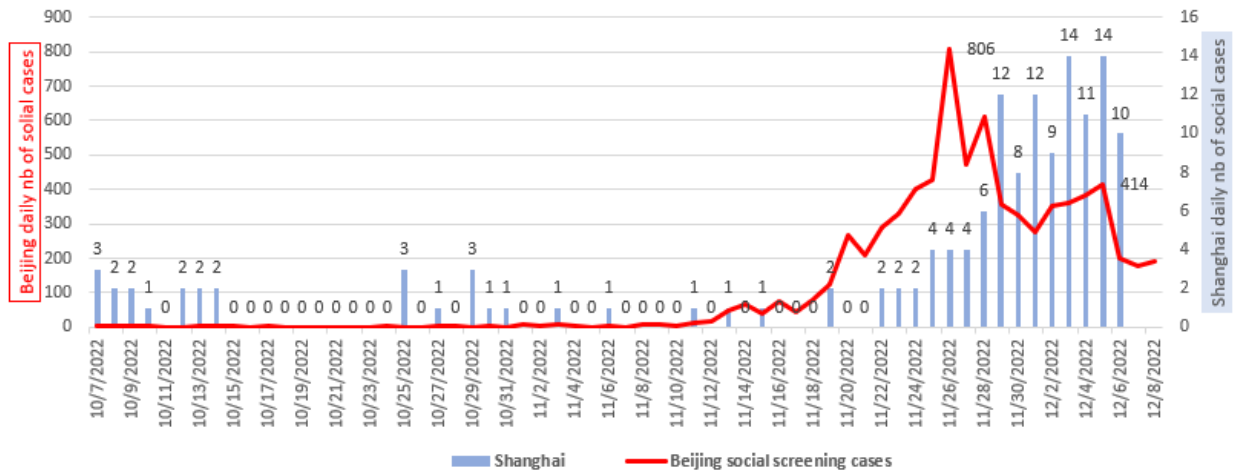
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Province final	2022				Peak daily incidence since Oct 1
	Dec	3	4	5	
Guangdong	6,240	6,184	5,110	4,486	9431
Chongqing	5,245	4,774	4,084	3,709	9619
Beijing	3,179	3,738	4,666	3,938	5006
Shanxi	2,681	1,411	1,623	1,396	3376
Heilongjiang	1,121	1,284	1,328	1,131	1347
Sichuan	1,102	1,051	1,128	984	1845
Shaanxi	948	1,043	1,041	1,069	1069
Yunnan	1,024	791	490	453	1164
Shandong	703	645	567	496	988
Xinjiang	699	676	561	417	1030
Jiangsu	588	575	497	440	592
Shanghai	421	565	577	478	577
Tianjin	537	497	451	411	870
Fujian	368	395	458	580	602
Hubei	488	398	438	449	726
Qinghai	643	481	348	244	1074
Zhejiang	517	505	335	289	517
Hunan	474	520	290	248	520
Inner Mongolia	410	445	345	312	1794
Liaoning	447	390	324	290	612
Guizhou	249	237	380	563	686
Guangxi	402	378	304	317	755
Henan	343	332	351	368	3014
Jilin	376	362	269	223	1586
Ningxia	349	328	270	247	477
Anhui	332	331	258	244	398
Gansu	282	232	193	147	2688
Hainan	149	231	211	253	291
Hebei	211	196	184	154	3374
Jiangxi	191	172	101	78	191
Tibet	15	27	35	34	54
Grand Total	30,734	29,194	27,217	24,448	39,785

Distribution of cases over the last 4 days before the lifting of restrictions: 7 provinces are at more than 1000 cases per day, but large cities are relatively preserved (in particular the region of the mouth of the Yangtze with Shanghai, Zhejiang, Jiangsu, Anhui ...)

One strategy could have been to release heavily affected areas, give some mobility freedom within the area, while continuing to preserve less affected areas, which would eventually have made it possible to allocate prevention resources, but given the distribution and contagiousness, it was a waste of time and therefore the whole country falls into the Big Bang on December 7.

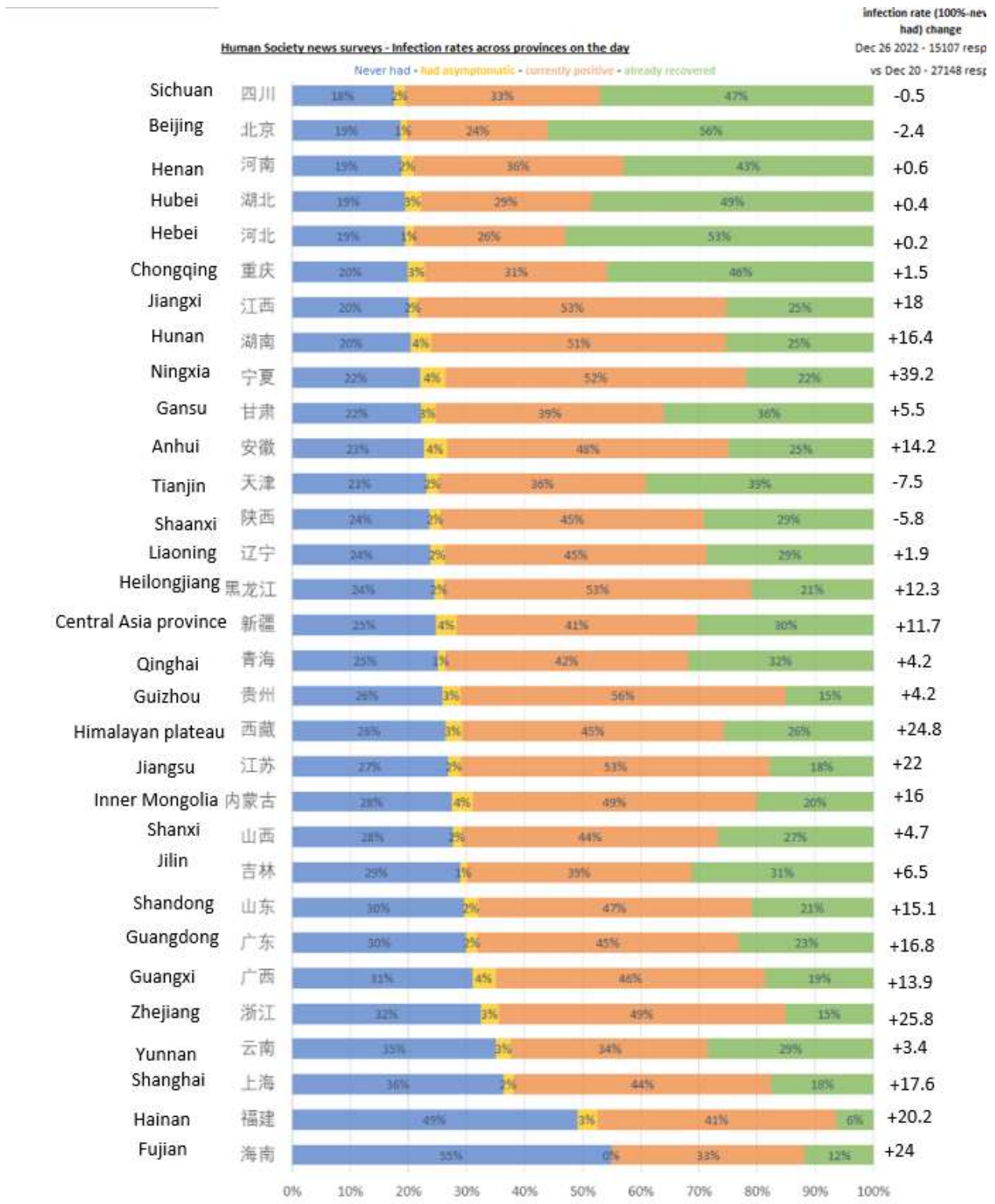
Beijing vs Shanghai social cases
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The number of social cases in Beijing vs Shanghai is rising at the same time, but in unprecedented proportions in Beijing with a peak of 806, while in Shanghai we did not exceed 14. But 14 cases not traced per day, that is already a lot to hold zero Covid without confinement.

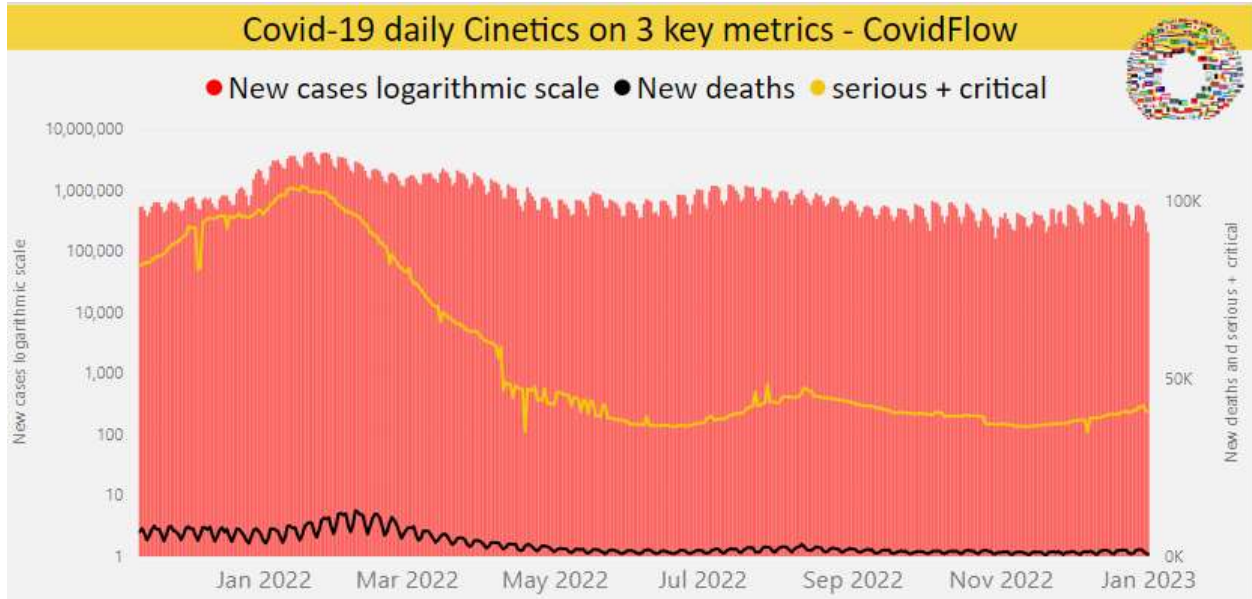
BA.1 passes, BA.2 breaks, BA.5 crashes

In China, nothing happens like elsewhere. We find ourselves in an unprecedented situation with a huge population that is almost entirely naive (less than 2 million cases recorded since 2020, i.e. 0.13% of the population) who find themselves overnight exposed to a variant with tenfold contagiousness compared to its original parent (BA.5/BF.7 vs. BA.1). The spread all across China happens instantly.



A poll on 12/20 and 12/26 details the infection rates measured from one day to the next

Globally, new waves are hitting regularly, the peaks are always lower than the previous ones since January 2022, because contagiousness comes up against the infectious immunity acquired by a majority of the population. Uncertainty remains with each new variant and in particular BQ.1 and XBB, which are the majority in the USA, which are no more virulent, but which seem more resistant to monoclonal antibody treatments as well as to the bivalent RNA vaccine.



The epidemic at Global for a year, with a logarithmic scale that flattens the January peak in order to see the successive waves with smaller effects on resuscitations (but less updated in a large number of countries, no more than 46 in our CovifFlow database compared to 141 in June 2021) and deaths, thanks to the long-term immunity of the most valiant and repeated vaccinations.

In China, we therefore decided to acquire immunity all at the same time, as one man, to have a few months of relief in national unity and to restart the economy in January.



the sheep emoji is flourishing on Chinese social media. Black dogs (the always negative ones) are confined while apps predict the peak of contamination by city.

Careful timing for China's Operation Overlord

The much feared during 3 years risk of hospital saturation is maximal, but the benefit of collective immunity of the country's active population for a few months is plausible. The timing of the shift could be optimal for several reasons:

- Upgrade of ICU equipment which would have gone from 3.6 beds per 100,000 inhabitants (or 4.5 according to sources) to 10 or 12.8, with 138,000 to 181,000 beds including 104,000 convertible beds, equipped with 131,000 respirators. It remains below the level of Europe (which would be 12 per 100,000 inhabitants, more than 20 in Germany) out of a total of 5.616 million hospital beds.
- Successive Omicron variants are not more dangerous
- The vaccination of the elderly has progressed and most importantly is recent. For people aged 80 +, it was multiplied by 2.8 between March and November 2022, 26% of people aged 80 + have been vaccinated recently, which gives them better protection against serious forms, because the distance from the last vaccination, it's more important than the type of vaccine.

Elderly 60 years + Population in China Covid-19 vaccination progress						
2020 7th Census elderly Population	148,101,535	84,343,080	31,153,906	263,564,182		5,815,462
Carole Gabay	total China					Shanghai
www.solidaritecovid.com						
	60-69Y	70-79Y	80+	total 60Y+		total 60Y+
share on total Population						
<u>vaccination rates March 2022 (Vacc</u>	90.0%	85.0%	59.0%	84.7%		
Vacc x2	29.0%	32.0%	32.0%	30.3%		61.9%
Vaccx3	59.0%	49.0%	19.0%	51.1%		37.5%
	60-69Y	70-79Y	80+	total 60Y+		
share on total Population						
<u>vaccination rates July 2022 (Vacc 1+)</u>	91.8%	92.7%	73.5%	89.9%		
Vacc x2	89.1%	87.1%	61.0%	85.1%		69.0%
Vaccx3	72.8%	69.9%	38.4%	67.8%		45.0%
dates						
<u>vaccination rates November 2022 (Vacc 1+)</u>			76.6%	90.7%		
Vacc x2			65.8%	86.4%		
Vaccx3			46.5%	68.7%		
	mutiple in 8 months on 80Y+		2.4			
<u>sources</u>			NHC			
2020 7th Census interim results May 2021		3/7/22	7/20/22	11/29/22		

Beijing : only 30%
press conference
Dec22

Vaccination x 3 of 80 years + has increased from 19% to 46.5% in 8 months. It remains that the 4th dose vaccination was only opened at the beginning of December to seniors only, and so we have at the Big Bang 51.1% of 60 years + who are more than 8 months away from their last injection, that's a problem.

Recent vaccination of the most fragile, this is a key point, probably more important than the benefit of an mRNA vaccine, because the case fatality data from the former British colony, by phase, vaccination schedule and age group continue to show good resistance of the 3-dose Sinovac vaccinated compared to the non-vaccinated, with a difference in favor of BioNtech which is probably associated, here too, with a longer resistance of the antibodies with the mRNAs.

Hong Kong Covid-19 2022 deaths and lethality rates (% deaths on cases) by age group, vaccination and phase

age group	60-69			70-79			80-89		
	Jan 1- April 13 2022	April 13- October 12 2022	Oct 13- Dec 12 2022	Jan 1- April 13 2022	April 13- October 12 2022	Oct 13- Dec 12 2022	Jan 1- April 13 2022	April 13- October 12 2022	Oct 13- Dec 12 2022
nb deaths	728	115	105	1458	196	185	6208	914	703
Unvaccinated	share in deaths all ages :						73.1%	40.4%	21.8%
unvaccinated lethality	2.06	0.75	0.43	5.44	1.52	1.36	16.18	7.71	7.74
1 Dose	share in deaths all ages :						15.1%	11.6%	4.6%
1 dose overall lethality	0.46	1.68	1.81	1.46	2.90	1.74	6.64	14.19	8.95
1 dose Sinovac	0.47	2.26	2.22	1.54	3.32	2.13	6.78	14.56	9.50
1 dose BioNtech	0.44	0.45	0.87	1.02	0.92	0.00	5.17	11.82	4.44
BioNtech vs Sinovac	0.94	0.20	0.39	0.66	0.28	0.00	0.76	0.81	0.47
2 Doses	share in deaths all ages :						11.0%	21.8%	13.7%
2 doses overall lethality	0.14	0.23	1.11	0.55	0.72	2.13	3.68	3.57	5.40
2 doses Sinovac	0.17	0.27	0.64	0.66	0.81	1.51	4.22	3.81	5.35
2 doses BioNtech	0.10	0.23	0.75	0.34	0.67	1.79	1.81	2.75	4.27
2 doses other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.76	0.00
BioNtech vs Sinovac	0.60	0.86	1.17	0.51	0.83	1.18	0.43	0.72	0.80
3 Doses	share in deaths all ages :						0.8%	19.0%	52.3%
3 doses overall	0.04	0.05	0.11	0.14	0.20	0.42	0.98	1.49	2.41
3 doses - Sinovac	0.03	0.05	0.16	0.17	0.25	0.56	0.93	1.66	2.77
3 doses - BioNtech	0.03	0.04	0.06	0.09	0.13	0.23	0.98	1.01	1.01
3 doses -other combi	0.07	0.03	0.10	0.11	0.05	0.17	1.27	0.93	2.10
BioNtech vs Sinovac	0.98	0.91	0.38	0.55	0.51	0.42	1.06	0.61	0.37
4 Doses	share in deaths all ages :						0.0%	0.8%	7.7%
4 doses overall			0.04		0.05	0.21		0.48	1.45
4 doses Sinovac			0.03		0.00	0.28		0.44	1.81
4 doses BioNtech			0.07		0.00	0.11		0.76	0.72
4 doses other			0.00		0.20	0.21		0.47	0.55
BioNtech vs Sinovac			2.64			0.39		1.72	0.40

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source : <https://t.co/3dPt2oGKRX>

source : Hong Kong Centre for Health Protection of the Department of Health

analysis by phase of Hong Kong data which shows: 1) the effect of saturation in the 1st phase on lethality. The lethality rate of the unvaccinated is halved once the big wave has passed. 2) the lethality of vaccinated 1-2 doses increases at a distance from the last doses 3) always an advantage to BioNtech

However, we see that Beijing is lagging far behind in the 80+ age group with only 30% of triple vaccinated vs 46.5% nationally. There are reports in Beijing, Chongqing and Shanghai of scenes of saturation of crematoriums, of smuggling of Paxlovid copies from India, not for the current infection, but for the next one (!!), rush on pain / fever relief medicines whose production capacity ramp up had not been anticipated. A Vaccination gap certainly, but also and strong incidences before the Big Bang in Beijing, Chongqing, which were the first exposed by the post relaxation wave. Elsewhere, fragile people have had time to self-isolate (for how long ?) to pass the peak announced by Big Data analyzes on Internet keyword searches.

After the Big Bang, the blackout

From December 7, and even a few days before, China's premium Covid reporting system broke down until the message of December 25: no more figures from the National Health Commission but monthly reports from Control Disease Center on hospitalized cases, severe and critical cases and deaths. During these 17 days have observed the evolution of the bulletins: first, deletion of details on travelers coming from other provinces, cases in isolation, but that was predictable. Then, end of the details by district in the city-provinces, then the provinces abandon one after the other the details on the cities, the provincial bulletins disappear and with them the details on the imported cases.

Covid -19 local and imported cases by province of Mainland source : daily curation of National Health commission China notifications
 data ending December 23 2022

	S1 2022			S2 2022 to date			2022 imported cases		
	nb local cases	% asymptomatic	% asymptomatic turn confirmed	nb local cases	% asymptomatic	% asymptomatic turn confirmed	nb cases	% asymptomatic	% asymptomatic turn confirmed
Shanghai	627,236	91%	4%	7,471	85%	0%	6,562	53%	0%
Jilin	74,843	47%	3%	11,396	98%	0%	216	75%	0%
Hebei	6,526	92%	0%	20,782	96%	0%	2	100%	0%
Shandong	6,112	76%	1%	21,428	92%	1%	1,355	64%	5%
Liaoning	4,670	82%	2%	9,957	88%	1%	1,389	84%	3%
Jiangsu	4,020	87%	1%	11,542	89%	1%	1,310	69%	2%
Fujian	3,620	64%	4%	7,922	61%	6%	3,193	22%	4%
Guangdong	3,605	49%	2%	234,579	77%	7%	11,211	56%	6%
Henan	3,060	51%	3%	41,399	86%	0%	770	84%	6%
Beijing	2,512	18%	4%	75,419	68%	1%	2,552	51%	3%
Jiangxi	2,234	81%	2%	3,674	85%	0%	75	37%	4%
Anhui	1,931	97%	0%	7,950	92%	1%	23	57%	4%
Zhejiang	1,800	54%	13%	7,913	63%	11%	3,049	86%	10%
Heilongjiang	1,759	48%	2%	25,403	91%	1%	392	57%	1%
Tianjin	1,673	27%	7%	13,539	96%	0%	1,508	63%	5%
Sichuan	1,572	75%	5%	34,811	74%	3%	3,503	55%	16%
Guangxi	1,326	73%	1%	12,940	94%	2%	3,954	83%	2%
Inner Mongolia	1,312	32%	1%	38,818	84%	1%	458	41%	7%
Yunnan	1,137	85%	1%	16,232	80%	2%	1,390	75%	1%
Shaanxi	1,117	2%	1%	23,222	91%	1%	489	64%	2%
Gansu	698	62%	1%	27,254	97%	1%	88	10%	1%
Hubei	460	90%	0%	14,758	97%	0%	505	82%	0%
Shanxi	436	67%	2%	37,839	87%	1%	92	75%	4%
Xinjiang	388	92%	0%	41,253	96%	0%	38	79%	11%
Qinghai	301	64%	3%	20,542	98%	1%	0	-	-
Hainan	166	40%	14%	24,207	58%	5%	9	56%	0%
Hunan	139	10%	2%	10,539	85%	1%	204	59%	30%
Chongqing	119	32%	3%	161,879	94%	1%	420	45%	3%
Guizhou	47	45%	4%	9,545	83%	2%	1	100%	0%
Ningxia	2	100%	0%	8,712	99%	0%	2	50%	0%
Tibet				19,872	92%	1%	0	-	-
total China	754,819	85%	3%	1,002,795	85%	3%	44,760	66%	5%

Asymptomatic cases removed from bulletins in the final days of the NHC reporting, they represent 85% of local cases, 66% of imported ones, while they are only 2-3% of adult cases in the Beijinger / Covid Expat polls, and same in the CDC polls published later on.

On December 14, no more asymptomatic cases reported, which is logical since there is no longer a compulsory test, but including for imported people, while these are still subject to full screening, enough to reinforce the prospect of full lifting of quarantines on arrival on January 8, once the big wave has passed. Moreover, on the surveys that are circulating, we quickly see that the asymptomatic are not that much... since at least 2 surveys of expatriates on an adult population only mention 2-3% asymptomatic.

city / district level in latest bulletin with cases	no more provincial bulletin 2 days +	Province final	20	21	22	23	4 day trend on confirmed cases	remaining local confirmed cases
	2 days	Guangdong	1171	1325	1599	1737	52%	10,671
	> 2 days	Beijing	544	471	547	580	33%	12,391
	> 2 days	Chongqing	204	209	271	283	29%	3,397
	2 days	Fujian	184	187	310	338	143%	1,247
	> 2 days	Yunnan	127	157	263	309	233%	1,384
	> 2 days	Hunan	119	115	93	109	33%	1,029
		Sichuan	86	97	110	94	24%	1,651
	> 2 days	Shanghai	108	47	79	80	56%	741
		Jiangxi	245	40	23	32	148%	451
	2 days	Tianjin	59	77	57	51	58%	362
	2 days	Hubei			112	258	0%	657
	> 2 days	Zhejiang	37	37	32	30	-26%	1,389
	1 day	Henan	36	42	34	33	-7%	2,162
	> 2 days	Shandong	17	20	23	31	-40%	231
x		Shanxi	32	46	18	52	311%	538
		Shaanxi	22	31	25	35	66%	486
		Inner Mongolia	3	5	13	9	-63%	246
		Heilongjiang	6	15	41	9	78%	312
	> 2 days	Hebei	15	14	15	13	16%	102
	> 2 days	Jiangsu	7	13	2	1	-12%	55
	> 2 days	Qinghai	5	6	2	5	38%	43
		Guangxi	4	10		10	380%	58
	> 2 days	Guizhou	16		2		125%	31
	> 2 days	Hainan	2	2	9	2	114%	1,246
x		Jilin					-100%	21
	> 2 days	Anhui					-100%	26
	> 2 days	Liaoning					-100%	135
		Tibet			1	1	0%	6
	> 2 days	Ningxia			1	1	0%	2
		Grand Total	3049	2966	3682	4103	56%	41,699
		Gansu						5
		Xinjiang						0

Latest daily data update from the National Health Commission. As of December 24, there were only 2 provinces to publish data per city, and the majority of provinces had stopped provincial bulletins, Guangdong last. Very few "confirmed cases" in rural provinces

There remained the confirmed cases of which we do not know whether they are mild / moderate / ordinary cases, resulting from screening or showing up at the fever clinic... From ordinary, patients can be eligible for hospitalization, but We don't have hospital admission data, since previously every positive case was in hospital or in an isolation center. The confirmed cases published show a strong disparity between the provinces with well-equipped cities and the others (no case in Gansu when 70% of the population would have been contaminated, no case in Jilin), we are certainly also far from reality since

fever clinics receive 15 to 20 times more patients, particularly in Zhejiang, and these are a fortiori “symptomatic”.

While we have known for several days that morgues and crematoriums are overwhelmed, the NHC announces 6 deaths in Beijing in 3 days (2+5-1 disqualified...). Non-Covid patients (related to hospital pressure, shortage of ambulances, etc.) or Covid patients? Since the infection rate in Beijing exceeded 70% (according to the Beijinger) on that date, it is therefore statistically unlikely that the victims were not infected... The NHC then explains to us that only Covid patients deceased from respiratory failure are counted as Covid deaths. On rechecking the bulletins from Shanghai in the spring announcing the 588 deaths, all were caused by the primary disease, so with this definition there would have been no deaths in Shanghai in the spring.

From 0 to 24 o'clock on May 7, 2022, there were 8 new local deaths. The average age is 80.6 years, the youngest age is 55 years, and the oldest age is 93 years. Eight patients had severe chronic underlying diseases and malignant tumors of multiple organs, including systemic lupus erythematosus, lupus nephropathy, uremia, lung malignancy, coronary heart disease, cardiac insufficiency, arrhythmia, hypertension grade 3 (very high risk), cerebral infarction, Alzheimer's disease, and diabetes. After the patient was admitted to the hospital, the primary disease worsened and the rescue was ineffective and died. The direct cause of death was the underlying disease of malignancy.

ShanghaiFabu bulletin of May 8, 2022, from April 17 to May 26, we always get this sentence about deaths.

The problem is not so much the narrowed definition, as some countries adopted it during the worst weeks of 2020, but the escape of these deaths from the daily and provincial Covid reporting, which makes it possible to accurately measure the effect of hospital saturation, much faster and more detailed than the counting of all-cause deaths by the National Bureau of Statistics. This governmental body fields a general Population census every 10 years and takes about 10 years to publish the complete results, by age group, by sub-prefecture, on dozens of categories (education, habitat, housing, Hukou, and crude death rates...). As Today, we only find the results of the 2010 census on the official site. On Taobao we can find the results of the 2020 census but still nothing on deaths.



National Bureau of Statistics of China

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- Monthly Data
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2010 Population Census

2013-04-23 14:00

Total 1 pages

Yearly national data until 2018 Shi Xian Qu level death rates on 2010 census

国家统计局 中国统计年鉴 2019

CHINA STATISTICAL YEARBOOK 2019

2-2 Birth Rate, Death Rate and Natural Growth Rate of Population

	Year	Birth Rate	Death Rate	Overall Growth Rate
2-1 Population with The Dependence	1979	19.25	6.25	13.00
2-2 Birth Rate, Death Rate and Natural Growth Rate of Population	1981	19.25	6.34	12.91
	1981	20.97	6.38	14.59
	1982	22.28	6.43	15.85

地区	人口自然变动率(‰)		
	出生率	死亡率	自然增长率
北京市	5.92	3.94	1.98
市辖区	5.91	3.87	2.04
东城区	4.33	6.14	0.19
西城区	4.45	5.99	0.46
海淀区	5.37	5.13	0.24
朝阳区	6.16	6.32	-0.16
丰台区	5.50	3.20	2.30
石景山区	5.97	3.44	2.53
门头沟区	6.32	4.34	1.98
顺义区	5.16	2.88	2.28

China Population Census data 2010-2020 (partial results on Taobao)	Shanghai		Beijing		China	
	2022	chg vs 2010	2022	chg vs 2010	2022	chg vs 2010
Population 60Y + share on total Population	5,815	67.6%	4,299	74.7%	263,564	45.3%
	23.4%	+8.3 pts	19.6%	+7.1 pts	18.8%	+5.5 pts

people over 60 have a growing weight in the population, particularly in Shanghai and Beijing. For deaths, we only have national death rates that stop at the year 2018, we will have to wait several years to have them by city...

This latest death announcement is the final blow to the NHC bulletins and disease downgrade. We are therefore awaiting these reports from the CDC, which needs more time to trace the information and by then the alternative death counts will abound. The CDC has also launched a survey, something rare in China, to assess the rate of contamination and the symptoms experienced. China had warned that it was risking a lot on its elderly population, even with an effort on vaccination and even in the face of Omicron. Calculations of excess mortality will have to be adjusted because China's population is aging: We therefore already have excess mortality in 2021 of 500,000 deaths...

In absolute numbers of deaths, the sharp inflection in China added almost 1 million “surplus” deaths above the trend line.

**Surplus Deaths in China Above Prior Trend Line
2019-2021**

Year	Crude Death Rate (Actual)	Hypothetical Crude Death Rate (As Per Trend Line)	Chinese Population	Actual Deaths	Trend Line	Gross Excess Mortality
2019	7.261 per 1000 population	7.148 per 1000 population	1,433,783,686	10,410,703	10,248,686	162,018
2020	7.402 per 1000 population	7.175 per 1000 population	1,439,323,776	10,653,875	10,327,148	326,726
2021	7.542 per 1000 population	7.201 per 1000 population	1,444,216,107	10,892,278	10,399,800	492,478
3-Year Total						981,222

Gross Excess Deaths in China above the Trend Line 2019-2021 CHART BY AUTHOR

Source: Forbes January 2022 – an interesting dialogue with the author of this article to explain to him that definitely no, in 2021, we could not have had 500,000 Covid deaths in China

Our exhausted volunteer team has been tirelessly on the data and with you for 3 years, working at a hellish pace in the last six months of Zero Covid, to deliver unprecedented insights from the curation of China data. We can now release ourselves from this daily work and capitalize with scientists on a rich history of data unique in the world for analyzing the dynamics of the pandemic and successive variants in the context of a zero Covid strategy. To pay gratitude, please donate :

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