

# 中国若“躺平”代价有多大?研究模拟数据: 上亿人感染新冠, 155 万人死亡

China may risk 1.55m deaths without 'dynamic zero-COVID' policy: study

如果中国放弃严格的清零政策, 将会给民众造成怎样的影响? 由来自复旦大学、华山医院、美国国立卫生研究院和印第安纳大学的研究人员 5 月 10 日共同发表于《自然医学》(Nature Medicine) 杂志上的模型研究显示, 在“完全躺平”的情况下, 奥密克戎毒株在中国的传播预计会导致 155 万人死亡。

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### Modeling transmission of SARS-CoV-2 Omicron in China

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The study, led by China's Fudan University with scientists from China and the US, estimated that an Omicron wave would result in 112 million symptomatic infections, 2.7 million intensive care admissions (15.6 times the existing capacity) and almost 1.55

million fatalities between May and July in China without the country's dynamic-zero-COVID policy. The related paper was published on the website of the international journal Nature Medicine Tuesday.

这项由复旦大学主导、中美科学家联合开展的研究预测，如果中国不采取“动态清零”政策，在5月至7月期间，奥密克戎毒株将导致1.12亿症状感染、270万人需要重症监护（现有能力的15.6倍），以及155万人死亡。相关论文5月10日发表在国际期刊《自然医学》的网站上。

The research team developed an age-structured stochastic compartmental

susceptible-latent-infectious-removed-susceptible (SLIRS) model of SARS-CoV-2 transmission calibrated on the initial growth phase for the 2022 Omicron outbreak in Shanghai.

该研究团队开发了一种基于2022年上海奥密克戎疫情初期增长阶段校准的，分年龄新冠传播的易感-潜伏-感染-移除-易感（SLIRS）模型。

This mathematical model on infection rates looked at the situation in China as a whole and separately in Shanghai Municipality and China's Shanxi and Shandong provinces to project the COVID-19 burden if the dynamic zero-COVID policy hadn't been adopted. It focused on cases, patients requiring hospitalization and intensive care, and deaths, using hypothetical mitigation scenarios.

该感染率数学模型除了对全国平均水平进行分析外，还比较了上海、山东、山西三地的情况。

预测不采取“动态清零”防疫政策的新冠感染负担。研究使用假设的新冠缓解策略进行预测，重点关注感染人数、需要住院治疗和重症监护的病例数以及死亡人数。

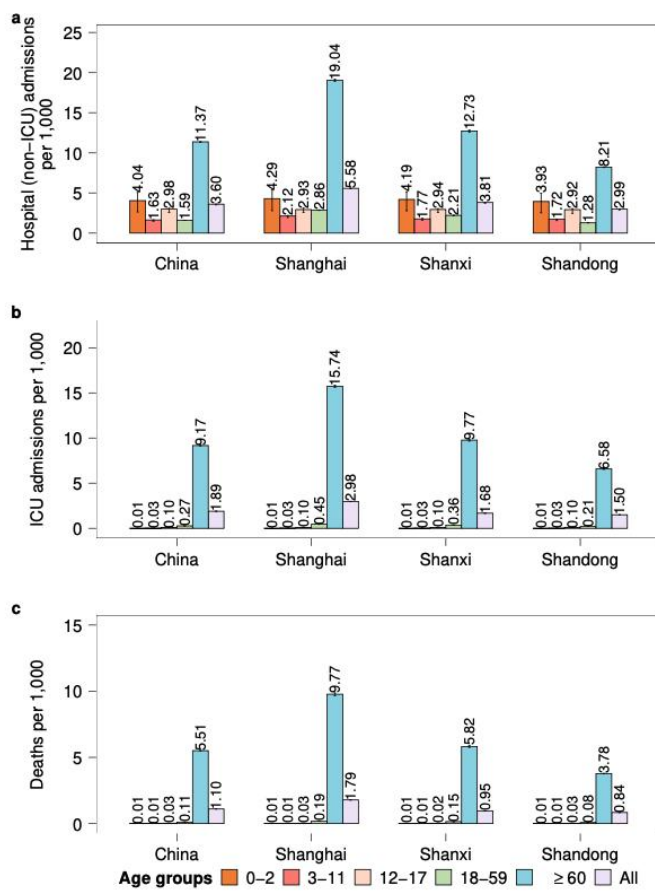


图 1: 如果不采取“动态清零”政策，

不同年龄组感染结局（中国整体、上海、山西、山东）

The model also considers age-specific vaccine coverage data, vaccine efficacy against different clinical endpoints, waning immunity, antiviral therapies, and non-pharmaceutical interventions.

该模型还考虑了以下因素：特定年龄的疫苗覆盖率数据，疫苗对不同临床终点的保护力，疫苗保护力减弱，不同抗病毒疗法和非药物干预措施。

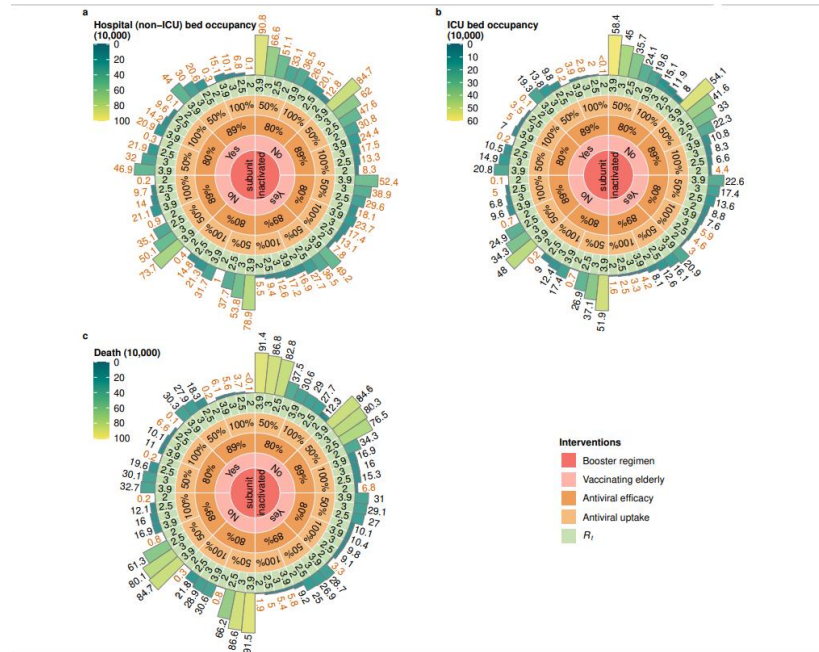


图 2：假如不采取“动态

清零”政策的住院率、重症率、死亡率

The scientists found that the level of immunity induced by the March 2022 vaccination campaign would be insufficient to prevent an Omicron wave. They said such a wave would exceed critical care capacity, with intensive care unit peak demand at 15.6 times the existing capacity, and cause about 1.55 million deaths.

科学家表明，截至 2022 年 3 月，中国的疫苗接种水平形成的免疫屏障并不能有效防止奥密克戎感染高峰，重症监护病房峰值将是现有数量的 15.6 倍，可能导致约 155 万人死亡。

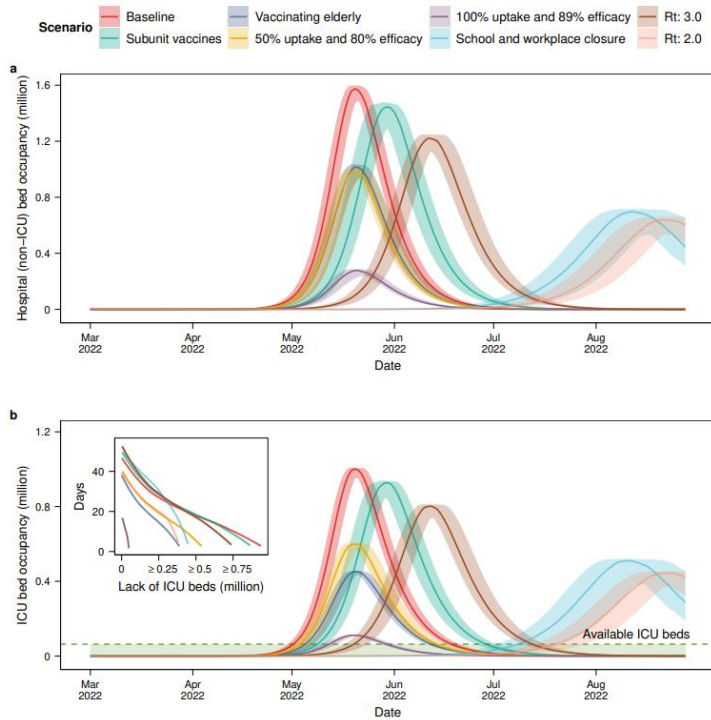
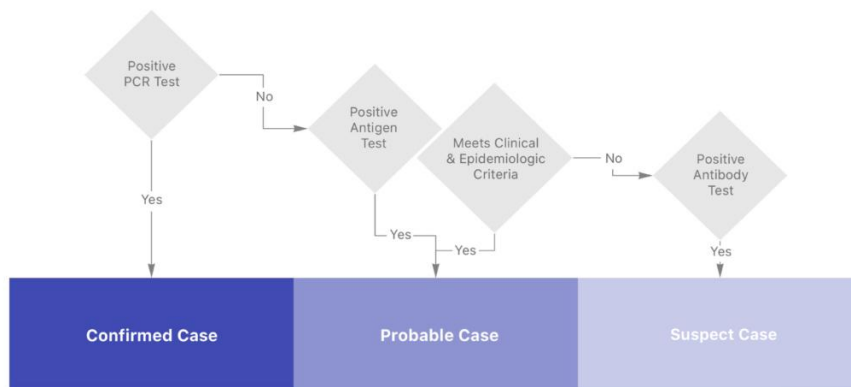


图 3：如果不采取“动态清零”

政策，2022 年 3 月至 8 月预计床位与重症监护病房资源需求情况

估算结果显示，在奥密克戎流行高峰期，预计全国需要 157 万张呼吸系统疾病病床，低于我国现有数量 310 万张；但重症监护病房（ICU）床位需求高峰（100 万）将达到我国现有 ICU 床位数量（64000）的 15.6 倍，且 ICU 床位短缺期将持续 44 天。

### Classifying a COVID-19 case using the CSTE definition



图表使用国家

和地区流行病学家委员会（CSTE）的定义对新冠肺炎病例进行分类。

## **Over 86% Chinese mainland seniors are vaccinated**

### **超 86%的中国大陆老年人接种了新冠疫苗**

As of May 5, over 1.25 billion people in China, or 88.74 percent of the country's total population, had been fully inoculated against COVID-19. Nearly 216 million of them are over 60.

截至 5 月 5 日，中国已有超过 12.5 亿人（占全国总人口的 88.74%）完成了新冠疫苗全程接种。其中近 2.16 亿人超 60 岁。

In addition, about 3.35 billion COVID-19 vaccine doses had been administered across the Chinese mainland, said Wu Liangyou of the National Health Commission (NHC), and nearly 757 million people, or over half of the population, had received the booster jab.

此外，国家卫生健康委的吴良友表示，中国大陆共接种约 33.5 亿剂新冠疫苗，超过一半的人口（近 7.57 亿人）进行了加强针注射。

As for the senior citizens aged 60 and above – the category most vulnerable to COVID-19 – over 227 million people, or 86.23 percent of the group, had been vaccinated. Over 162 million of the Chinese seniors have received booster shots, added Wu.

60 岁及以上的老年人（新冠病毒最易感染人群）中，超过 2.27 亿人接种了新冠疫苗，占该群体的 86.23%。吴良友还表示，超过 1.62 亿的中国老年人进行了加强针注射。



A senior citizen receives a dose of COVID-19 vaccine at a mobile COVID-19 vaccination site in Beijing, April 9, 2022. [Photo/Xinhua]

Zheng Zhongwei, head of vaccine research and development at the NHC, said the data shows vaccination is highly effective for the elderly to fend off severe symptoms and death when infected by COVID-19.

国务院联防联控机制科研攻关组疫苗研发专班工作组组长、卫健委郑中伟表示，数据显示，接种疫苗能有效降低老年人的重症和死亡风险。

A vaccination regimen consisting of three shots is an ideal immune process, according to Zheng. "It's about 98 percent effective to prevent severe symptoms after three shots, no matter what kind of vaccine you're taking."

郑中伟称，三剂接种新冠疫苗是最佳免疫程序，“无论你接种的是哪种疫苗，三剂接种以后预防重症的效果都达到 98%”。

Based on the COVID-19 situation in Hong Kong Special

Administrative Region (HKSAR), the mortality rate of the elderly who complete three-shot vaccination drops as much as 74 times compared to the unvaccinated, said Zheng. Even for those who only take one shot, the death rate declines three times compared to those without vaccines.

郑中伟称，按照香港特区的疫情情况，完成三剂疫苗接种的老年人死亡率比未接种疫苗的老年人死亡率下降了 74 倍。即使只接种一剂疫苗的人，死亡率也比没有接种过疫苗的人下降了三倍。

Zheng added that more than 90 percent of the infected are above 60 with underlying diseases.

他还称，90%以上的感染者年龄在 60 岁以上，且患有基础疾病。

### **'Dynamic-zero' policy key to curb COVID-19**

#### **“动态清零”是中国防控疫情的制胜“法宝”**

Li Bin, vice minister of the National Health Commission, said at a news briefing that China has stuck to the "dynamic zero" policy with targeted measures over the past two years. Successful experiences have proved that the policy is the best choice for China to maintain social and economic development.

国家卫生健康委副主任李斌在新闻发布会上表示，中国在过去两年中坚持“动态清零”政策，采取了有针对性的防控措施。成功经验证明，这一政策是中国保持社会经济发展的最佳选择。

### **'Dynamic zero' does not mean zero infections**



## **“动态清零”不是绝对的“零感染”**

Li stressed that "dynamic zero" does not mean zero infections. With the threats of Omicron and other COVID-19 variants, China cannot guarantee that no individuals will be infected with the novel coronavirus in the short term, but it is able to quickly identify and contain an outbreak once it is detected to prevent the virus from causing greater harm to the wider population.

李斌强调，“动态清零”不是绝对的“零感染”，面对奥密克戎等变异株的挑战，我们还没有能力保证不出现一例本土病例，但中国的防控措施使得一旦发现疫情，可以迅速识别并控制疫情发展，防止病毒对更多人群造成更大伤害。

The essence of the dynamic zero-COVID approach is early detection and quick response measures to stop the continuous spread of the virus in communities to protect people's health and lives to the greatest extent.

“动态清零”的实质是早期检测和快速反应措施，阻止病毒在社区持续传播，最大限度地保护人民的健康和生命。