

# 新冠肺炎之 疫情擴散及藥物疫苗\*

The Ongoing Global COVID-19  
Pandemic and Related Vaccines

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## 摘 要

自新冠肺炎於2019年下旬在中國武漢爆發以來至2021年4月，已在全球造成約1億4千萬人染疫、約3百萬人死亡。在美國已累計造成逾3千萬確診病例、逾56萬人亡故。全球超過百萬人染疫的國家已約25個。美國的疫苗接種劑數已約3億、至少接種一劑之人數已約1億5千萬人，約為美國人口的45%，但各州的施打率不一。接種比例最高的國家是人口約933萬、已約9%染

\* Summer E. Galloway, Emergence of SARS-CoV-2 B.1.1.7 Lineage — United States, December 29, 2020–January 12, 2021, [https://www.cdc.gov/mmwr/volumes/70/wr/mm7003e2.htm?s\\_cid=mm7003e2\\_w&fbclid=IwAR1sY9doYIDTtH05RSLEwysvYSVdQ2dZ5Fm5yR7mqAY1F6L2hCgVBkXhE-c](https://www.cdc.gov/mmwr/volumes/70/wr/mm7003e2.htm?s_cid=mm7003e2_w&fbclid=IwAR1sY9doYIDTtH05RSLEwysvYSVdQ2dZ5Fm5yR7mqAY1F6L2hCgVBkXhE-c); Brenda Goodman, CDC: New COVID Strain May Dominate U.S. by March, Dec. 30, 2020, [https://www.webmd.com/lung/news/20210115/cdc-new-covid-strain-may-dominate-us-by-march?ecd=soc\\_fb\\_210116\\_cons\\_news\\_newstrain&linkId=100000028524924&fbclid=IwAR1rpJhGcY0LJ62rrC7ZCDYNfb4InDGI29I-YRlpxGL6AVlbst5jvHcECbg](https://www.webmd.com/lung/news/20210115/cdc-new-covid-strain-may-dominate-us-by-march?ecd=soc_fb_210116_cons_news_newstrain&linkId=100000028524924&fbclid=IwAR1rpJhGcY0LJ62rrC7ZCDYNfb4InDGI29I-YRlpxGL6AVlbst5jvHcECbg)

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關鍵詞：疫苗 (vaccines)、疫苗法 (Vaccine Act)、病例 (confirmed cases)、新冠肺炎 (COVID-19)、藥害救濟 (vaccine/medicine injury compensation)

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疫、約6400人亡故的以色列，這涉及其有限人口及在歐美之龐大勢力。疫苗不良反應部分，美國早在1813年即已訂有疫苗法，聯邦與各州目前都有不同的疫苗與／或藥害救濟規範，相關條文可能散見在不同法律中，包括美國法典第42卷「公共衛生與福利」，後還有「全國疫苗傷害補償計畫」與「疫苗傷害對策補償計畫」。

Since the outbreak of COVID-19 in Wuhan, China in late 2019 through April 2021, 140 million people have been infected and 3 million people have died from the pandemic worldwide. In the United States, more than 30 million people have been tested positively which caused more than 560,000 death. Two dozen countries have reported more than one million confirmed cases within their borders. Nowadays, approximately 300 million vaccine doses have been administered in the U.S. About 150 million Americans have received at least one dose. The 9.33-million-people Israel enjoys the highest rate of COVID-19 vaccination in the world after nearly 9% of her population infected and more than 6,400 died. This can be contributed to its limited population and enormous influence in Europe and America. The United States enacted Vaccine Act as early as 1813. The federal and state governments have many kinds of regulations of vaccine medicine injury compensation. The relevant provisions may be found in different laws, including Title 42 of the U.S. Code: The Public Health and Welfare.

## 壹、正文

### 一、病毒變種與感染

自從新冠肺炎之功能增強（gain of function）病毒——SARS-CoV-2於2019年開始傳染以來，為適應全球各地因自然、人種、環境不同乃至人為因素而可能有病毒持續變異，至2021年4月已有4000多種病毒株。這導致各地及各病毒株出現各自有異的傳播模式、「逃避免疫、免疫逃逸」（immune escape）機制及疫情起落，在任何國家或國內不同區域皆可能同時存在不同之波峰／波谷週期。其較知名的變種包括在英國被觀察到傳染性更高的B.1.1.7、在南非被觀察到的B.1.351、在巴西被觀察到的P.1、在菲律賓被觀察到的P.3、在法國西部布列塔尼（Brittany）大區被觀察到而難以採集上呼吸道樣本的PCR（Polymerase Chain Reaction, 聚合酶連鎖反應）方式檢測到的le variant breton 等。在美國的B.1.426及因為在加州被觀察到而被稱為CAL.20C 的B.1.427與B.1.429；在紐約州流行而被觀察到的B.1.526，這些都成了2020年秋冬後美國的主要病毒株。

新冠肺炎病毒會如愛滋病毒般攻擊／破壞人體免疫系統，由於每個人的免疫系統強弱有別，且對不同病毒株之免疫力亦可能不同，就影響了是否受感染及被感染後是否有症狀及症狀為何。個體患有AIDS/HIV等免疫不全或缺失者感染新冠肺炎或染疫致死之風險與可能性自然更高<sup>1</sup>，免疫功能低下或具缺

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1 *Epidemiology and Outcomes of COVID-19 in HIV-infected Individuals: A Systematic Review and Meta-Analysis*, NATURE, Mar. 18, 2021, <https://www.nature.com/articles/s41598-021-85359-3> (lasted visited: Apr. 16; 2021); *HIV Infection and COVID-19 Death: A Population-based Cohort Analysis of UK Primary Care Data and Linked National Death Registrations Within the OpenSAFELY Platform*, THE LANCET, Jan. 1, 2020, [https://www.thelancet.com/journals/lanhiv/article/PIIS2352-3018\(20\)30305-2/fulltext](https://www.thelancet.com/journals/lanhiv/article/PIIS2352-3018(20)30305-2/fulltext) (lasted visited: Apr. 16, 2021).