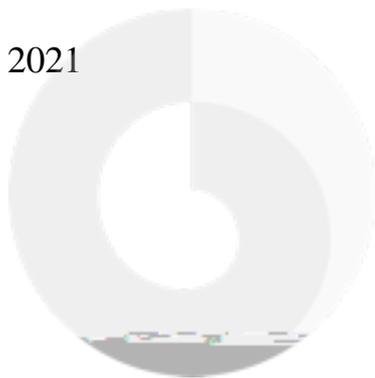


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2021 2 14



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2021

2021

2022 2021

1: B.1.1.7 B.1.351

<ul style="list-style-type: none"> • 2019 • 2.19% • 95% • Moderna 94.1% • 82.4% • Gamaleya 91.6% • 79.34% • 221 	<ul style="list-style-type: none"> • B.1.1.7/ 501Y.V1 • 8 • N501Y • 50%¹ • 35%² • 70-80%³ • B.1.1.7⁴ • 70 	<ul style="list-style-type: none"> • B.1.351/ 501Y.V2 • 9 • N501Y K417N E484K • 10% • 6.5 • Moderna 6 • 57% • 32

: The New York Times, Nature, Science, medRxiv, WorldOMeters, Our World in Data,

¹ <https://www.nytimes.com/interactive/2021/health/coronavirus-variant-tracker.html>

² Davies, N. et al. Preprint at medRxiv <https://doi.org/10.1101/2021.02.01.21250959> (2021).

³ <https://www.bioworld.com/articles/503277-positive-news-astrazeneca-vaccine-still-effective-in-b117-sars-cov-2-variant>

⁴

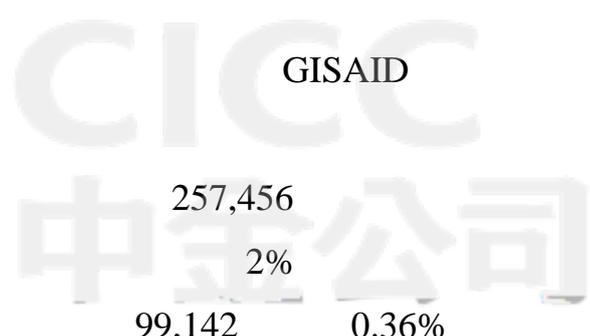
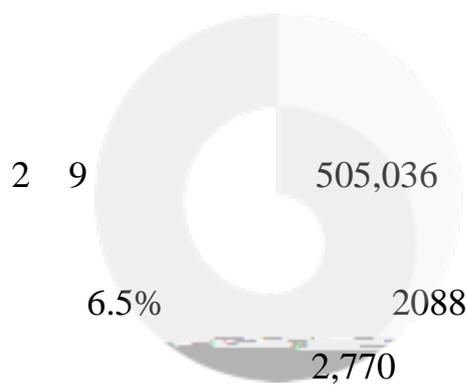
2021 2 5

3,863

B.1.1.7

B.1.351

1



GISAID

2021

257,456

2%

99,142

0.36%

6

2020 3

2,000

COG-UK

COVID-19 Genomics

UK Consortium

9

B.1.1.7

WHO

Maria Van Kerkhove

2021 1

7

1.9

8

4,150

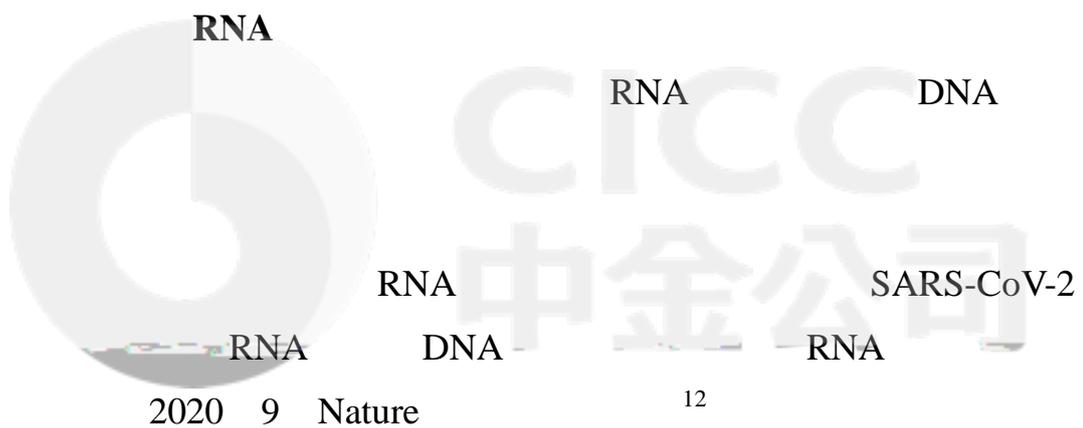
⁵ <https://nextstrain.org/ncov/global>

⁶ <https://www.gisaid.org/>

⁷ <https://www.nature.com/articles/d41586-021-00065-4>

⁸ <https://www.statnews.com/2021/01/14/biden-request-covid-19-response/>

mRNA Moderna mRNA
RNA Moderna
6 9
10
11



RNA

Emma

Hodcroft

13

⁹ <https://www.nytimes.com/live/2021/02/04/world/covid-19-coronavirus#the-fda-prepares-plan-if-vaccines-prove-less-effective-against-new-variants>

¹⁰ <https://www.aljazeera.com/economy/2021/2/3/the-race-for-next-generation-covid-vaccines-is-heating-up>

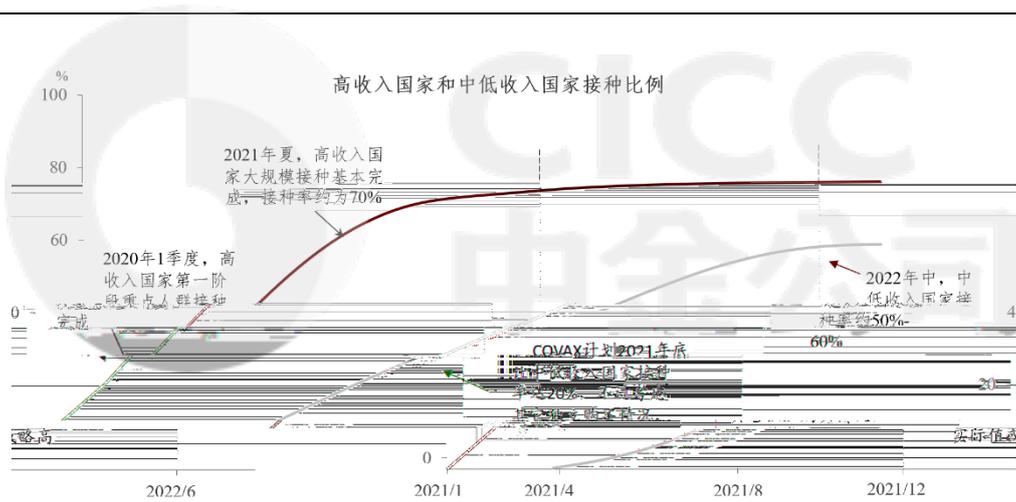
¹¹ <https://www.nytimes.com/2021/01/25/health/coronavirus-moderna-vaccine-variant.html>

¹² Callaway, Ewen. (2020). The coronavirus is mutating does it matter?. Nature. 585. 174-177. 10.1038/d41586-020-02544-6.

¹³ <https://www.vox.com/science-and-health/22192061/mutant-coronavirus-covid-19-uk-mutation-vaccine>

2020 12 6 14
2 2021
2021

2: 2021



: 2020 12

3

64.26% 2021

2 9

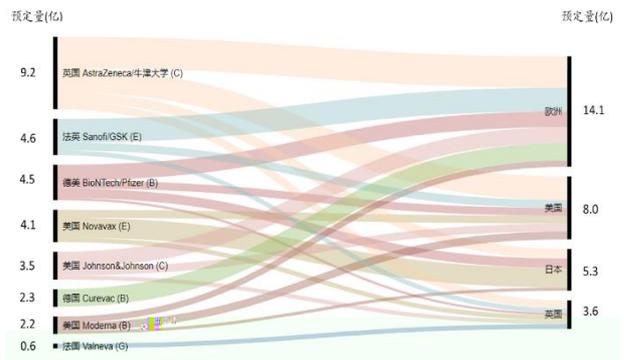
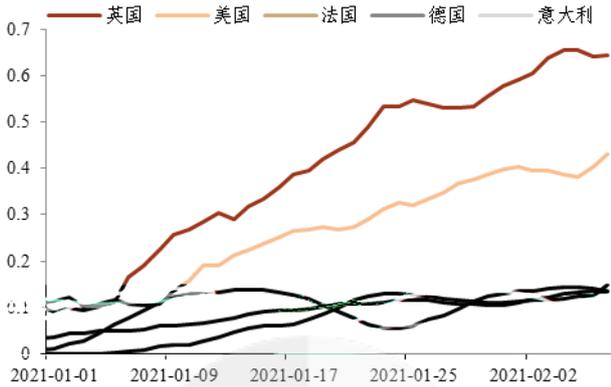
3

3:

7

4:

Sanofi/GSK



: Our World in Data

2021 2 7

: Moderna

2020 12 2



4

Sanofi/GSK

Sanofi/GSK

50

2021 15

2021 1

Moderna

1 15

2

3-4

1 22

1

8,000

3,100

40% 1 29

Moderna

2

13.2

¹⁵ <https://www.fiercebiotech.com/biotech/weak-clinical-data-force-sanofi-gsk-to-delay-covid-19-vaccine>

20% 2 60 80

2021 1

CDC 2020 12

1a 2,100

300 1b 3,000

75 1,900 7,300

2 2 3

50 1,050

1 2 11 6,500 Walgreens

CVS Rite Aid 100 16

4 2021 2 145

150 17 1 30

4 5

200 2

3 1

3

2 1,500 70

3 50

3,200 50%

5:

1

4

6:

40

: CDC

2021 2

: GOV.UK

8

2 7

財

2

COVAX 3.36

2 2.4

9,600 1 15% 1,440

COVAX

2021 2 3% 20%-25% 2022

2022 50-60%

7: COVAX

			2021Q1	2021Q2
/BioNTech	-70	2	120	/
/Oxford	2-8	2	1	2.1

: WHO /Oxford 2.4

9600 35-40% 60-65%

15% 56%

1 2

2021 1

2021 Moderna

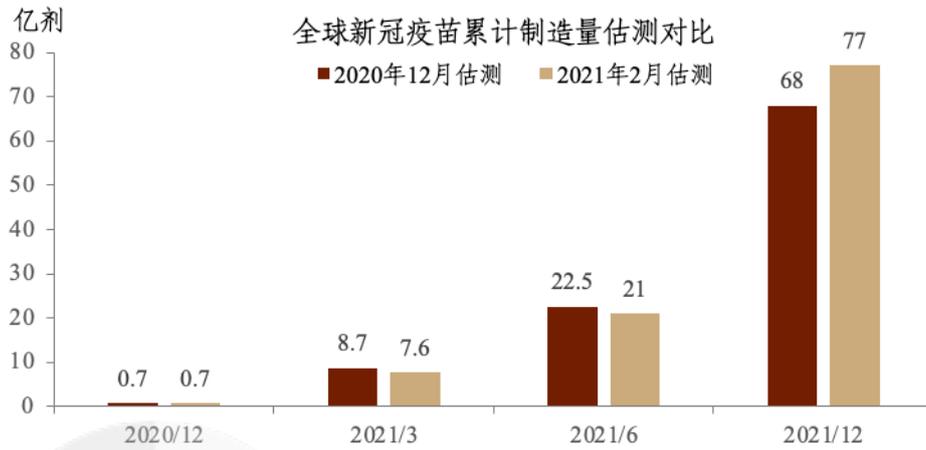
Novavax 2021 8 12

6 2021 1 2

2021 1 7.6

8.7 2 21 22.5
77 12 68

8: 2020 2020



: AstraZeneca, Moderna, Pfizer, J&J, Novavax, CNBC, Reuters, The Economic Times, Financial Times, New York Times, LA Times, Washington Post, NPR.

2020 12

2020 12 2

2021 2

2021 2 6

1

20

19

1.2

20

2000

7500

1

21

1 27

1 11

13

BioNTech

7

8

1

Moderna 1

6

22

1

FDA

1 31

1

¹⁹ <https://www.ft.com/content/338fa31b-6b4d-4184-b41b-98388652a943>

²⁰ <https://www.npr.org/sections/health-shots/2021/02/01/962954518/moderna-increases-covid-19-vaccine-shipments-while-pfizer-lags-behind>

²¹ <https://www.latimes.com/world-nation/story/2021-02-01/astrazeneca-deliver-more-covid-vaccine-doses-euro>

pe

²² <https://www.washingtonpost.com/health/2021/01/14/covid-vaccine-supply/>

Moderna

mRNA

mRNA

mRNA

mRNA

2

27

28



2

29



Gamaleya

²⁷ <https://www.statnews.com/2021/01/14/businesses-across-the-supply-chain-must-work-together-to-produce-covid-19-vaccines/>

²⁸ <https://latestnews-live.com/behind-astrazenecas-covid-19-vaccine-stumble/>

²⁹ <https://www.reuters.com/article/us-health-coronavirus-vaccine-latam/russia-warns-of-delays-in-sputnik-v-vaccine-supply-to-latin-america-idUSKBN29W2N2>

10:

/BioNTech	mRNA	5 6
Moderna	mRNA	FDA 15
		1

: AstraZeneca, Moderna, Pfizer, CNBC, Reuters, The Economic Times, Financial Times, New York Times, LA Times, Washington Post, NPR, Repubblica, The Guardian, Pharmaceutical Technology, Statnews.

2021

/BioNTech

30

7.5 2

31

Moderna 2

580

430

35%³²

Moderna

FDA

10

15

Moderna

2

³⁰ <https://www.npr.org/sections/health-shots/2021/02/01/962954518/moderna-increases-covid-19-vaccine-shipments-while-pfizer-lags-behind>

³¹ <https://www.voanews.com/covid-19-pandemic/pfizer-biontech-boost-supply-vaccine-doses-500k>

³² <https://www.npr.org/sections/health-shots/2021/02/01/962954518/moderna-increases-covid-19-vaccine-shipments-while-pfizer-lags-behind>

10

11

33

Maccabi Health Services 1
22 37 5 60 12 1
60% 14
11 Maccabi 2 4 38 416,900

11:

Maccabi



: Maccabi Research and Innovation Center

7

³⁷ <https://www.dailymail.co.uk/news/article-9179677/Israeli-healthcare-group-says-coronavirus-infections-plunged-vaccinated-60s.html>

³⁸ <https://www.jpost.com/health-science/covid-just-006-percent-israelis-sick-after-two-shots-no-one-serious-study-657871>

(Nature) 2 3 39 (Weizmann Institute of Science) 40 1 2

90% 60 41%

31% 30% 59

12% 5% 25

Institute of Technology 2 5 Technion-Israel

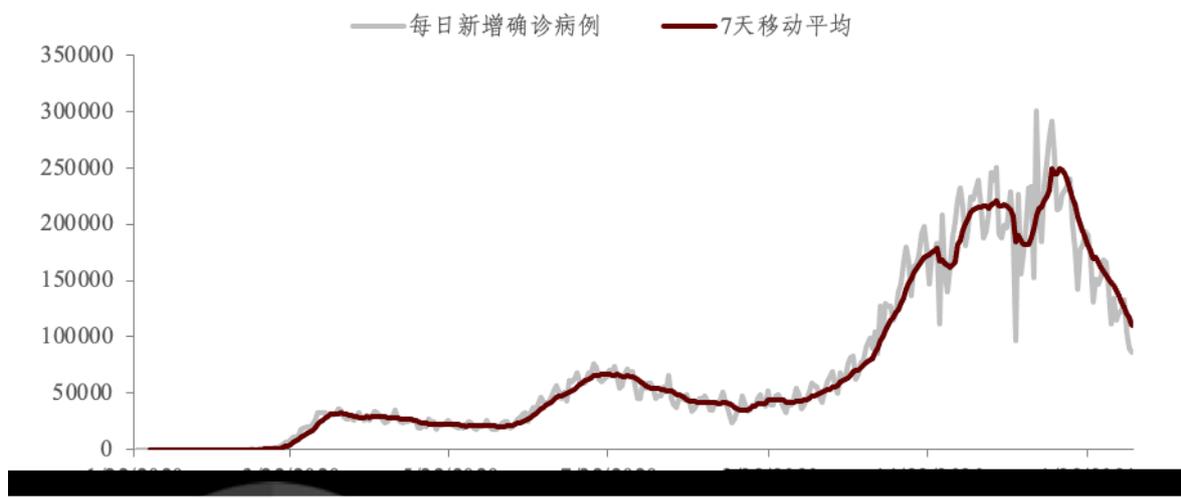
Dvir Aran 41

66%-85%



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14:



: Our World in Data

2021 2 8



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2020

III

2021

15: III

			III	
/		2 3	2020 12 30 III 79.34%	:
		2 2	2021 1 12 III 100% 77.96% 50.4%	
		1	2021 2 8 III 100% 28 74.8%	

: New York Times

2021 2 11 3 III
3 50-80% 15

45 74.8% 2
82.4% 1 72%

16:

	2020 12 1000 3500	2021 3 800
	1	600 2021 1 17 18
	6000	2021 1 200

mRNA				12		2021
1	mRNA	⁴⁸	2021	1	25	BNT162b2
					100	2
750	BNT162b2	⁴⁹				
2	9	1			160	
4,052	17	18				
			2.82%		19.39%	12.92%

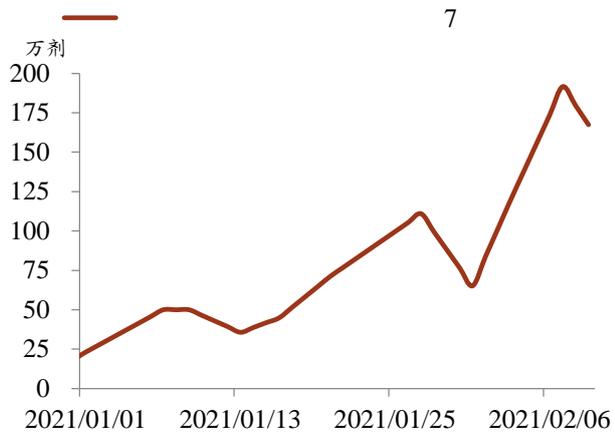


2021
 2021
 CICCC
 中金公司

⁴⁸ <https://www.fiercepharma.com/pharma/biontech-and-fosun-lock-down-100m-covid-19-vaccine-doses-for-china>
⁴⁹ <https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/fosun-biontech-ready-for-covid-19-vaccine-distribution-in-hong-kong-62306509>

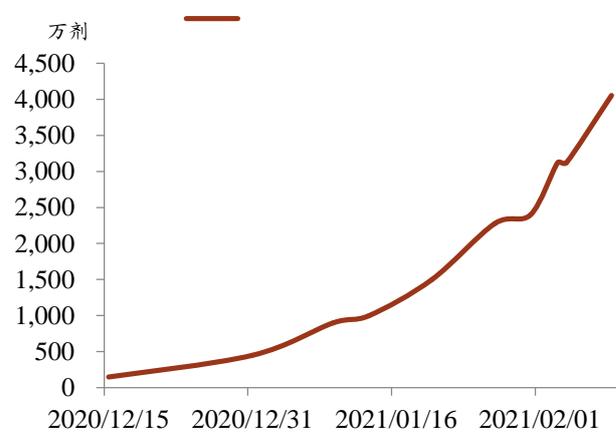
17:

160



18:

4000



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2021 2 9

:
2021 2 9



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