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COVID–19 Intel Report

Prepared for the IFPMA, BIO and DCVMN Press Briefing
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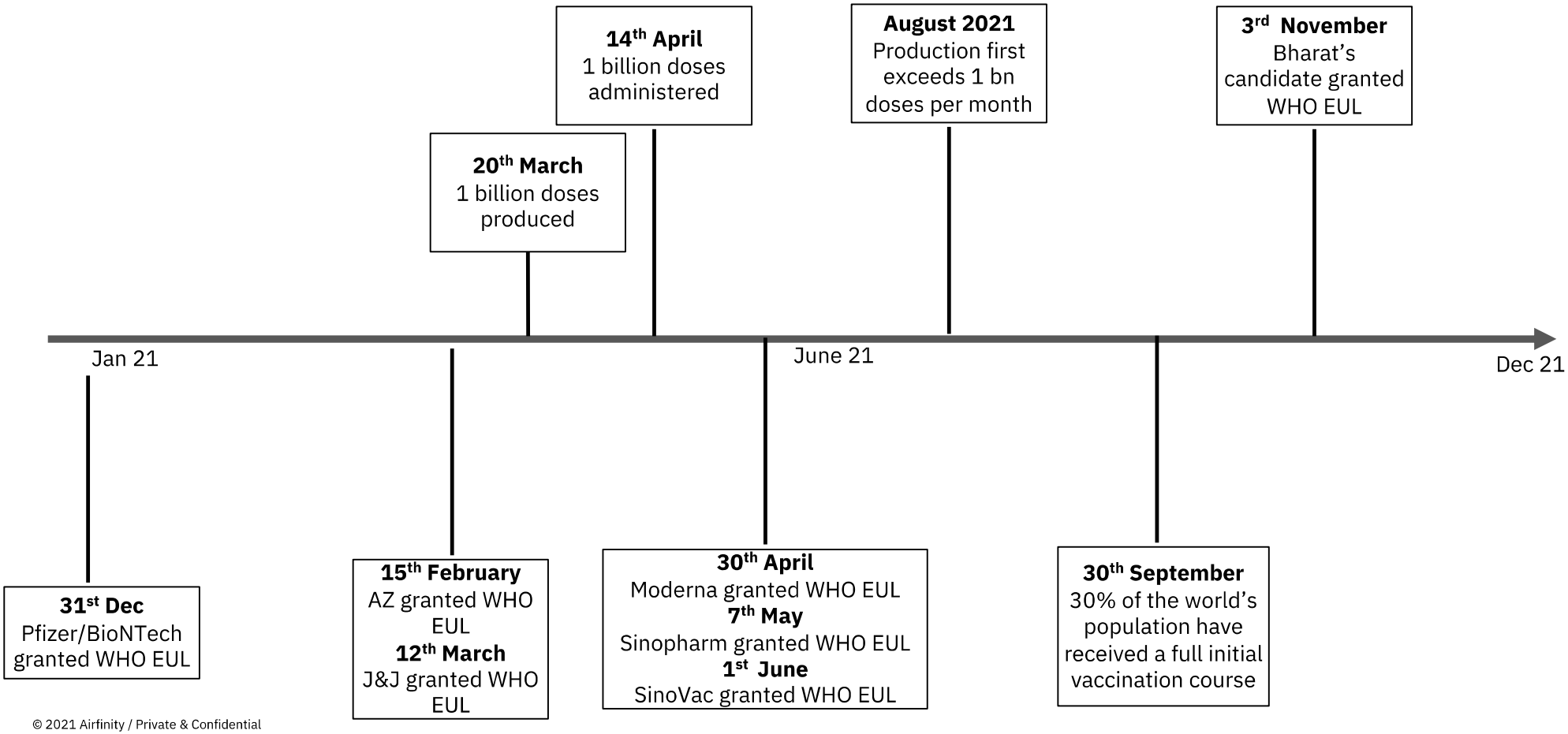
16th December 2021

Significant progress made in 2021 on COVID-19 vaccines

An overview of major milestones achieved to date



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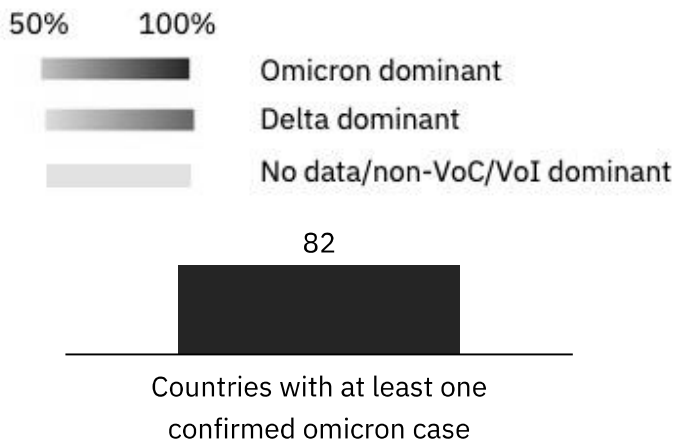
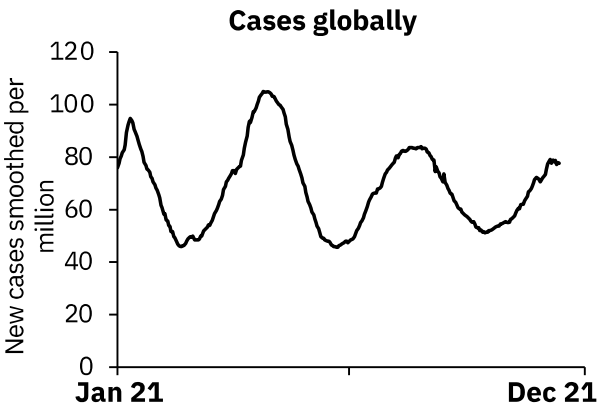
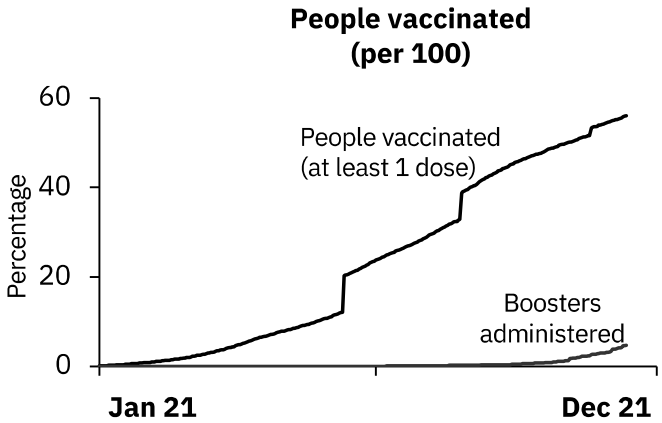
Despite a big increase in vaccination rates there are concerns on variants and rising cases

An analysis of the current dominant variant, infections, deaths and vaccinations globally over time







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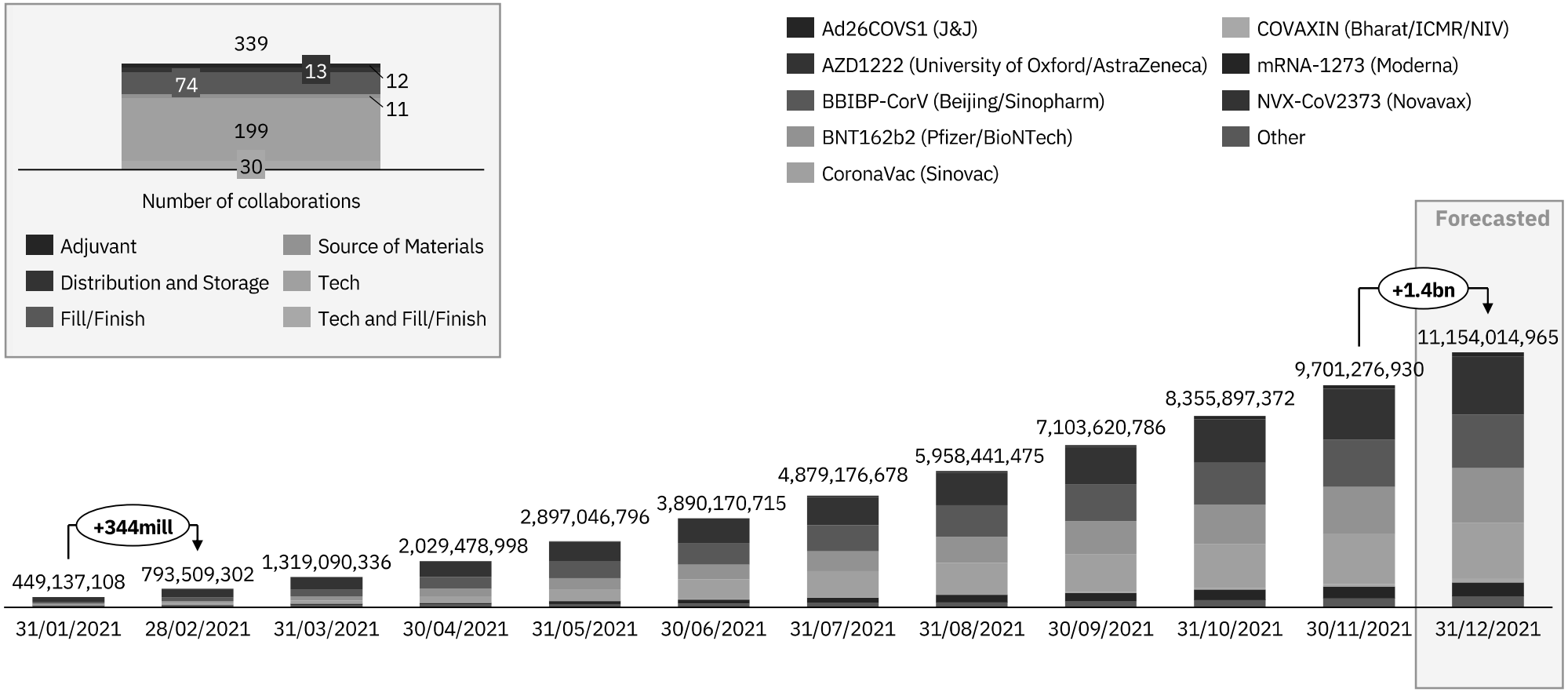
Vaccine production forecast to hit 11.2bn doses in 2021, with a capacity of 1.4bn in December alone

Vaccine production split by candidate



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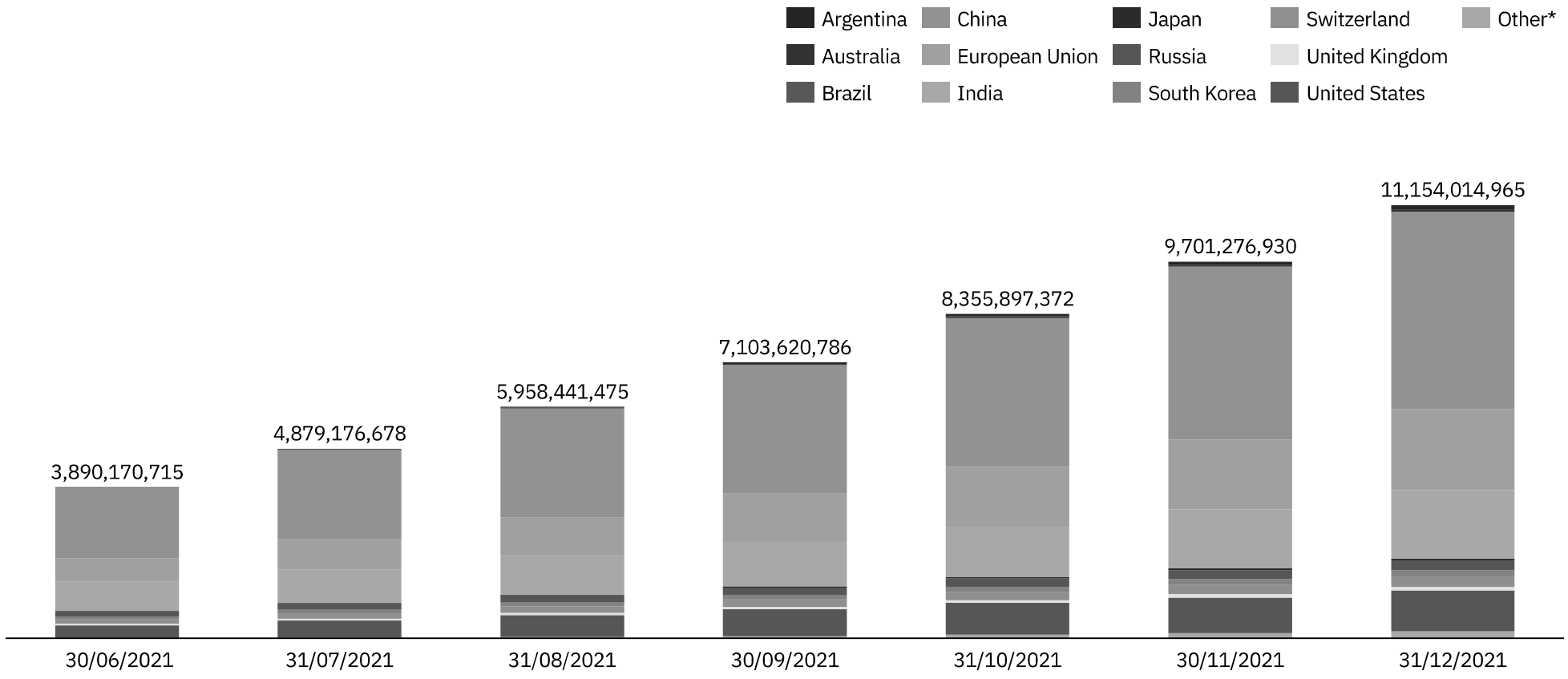
China, EU, India and the US set to be the biggest vaccine producers in 2021

Vaccine production split by country



 *Other includes Belarus, Cuba, Egypt, Iran, Kazakhstan, Taiwan and Thailand. This analysis is based on where the vaccine drug substance is produced it does not take into account fill/finish occurring in other locations

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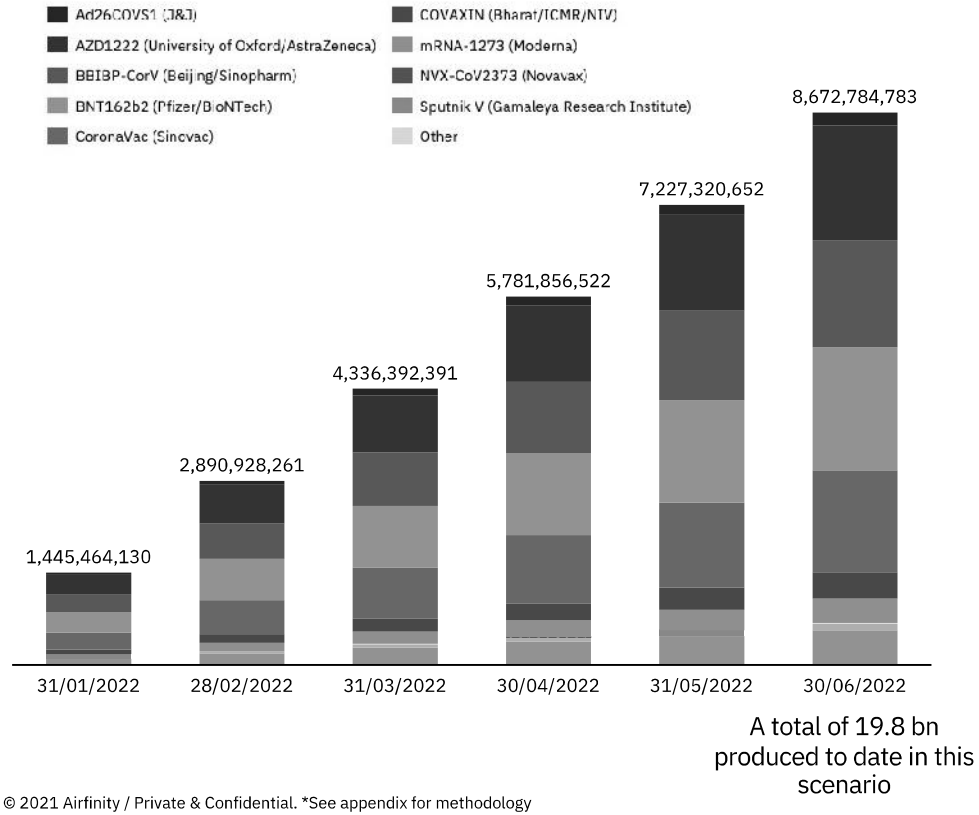
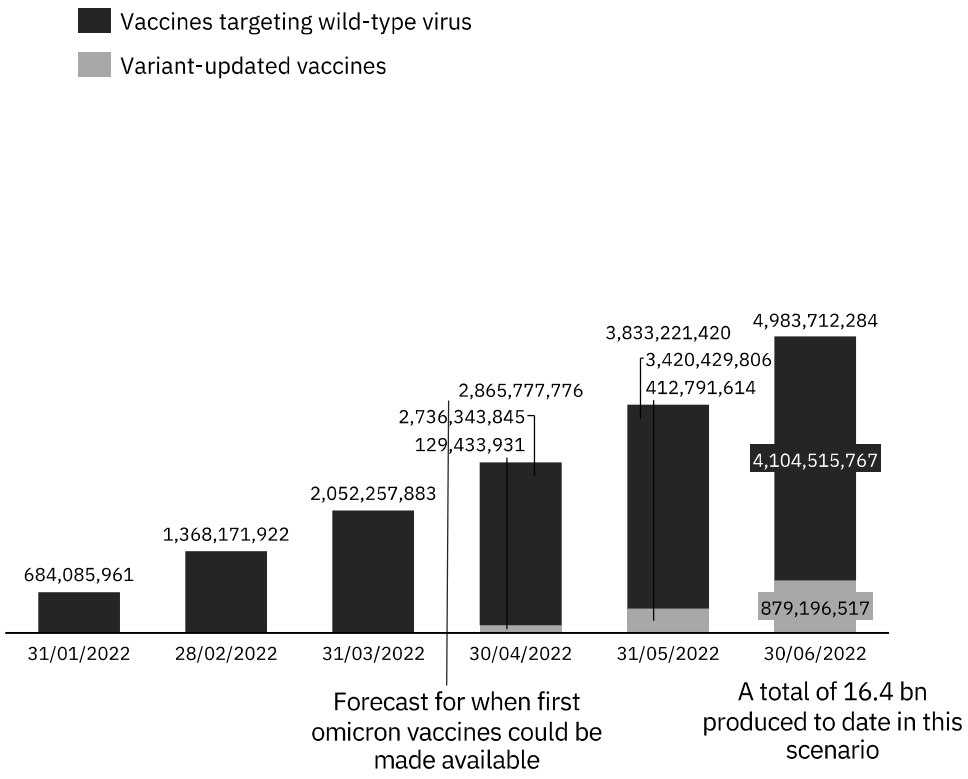
If a variant-updated vaccine is needed, production rate in 2022 would slow initially

An analysis of production forecasts if rate continues or if 50% of production is diverted to producing a variant vaccine

Production scale up if production continues at the current rate



Production scale up if 50% of production in 2022 is diverted to producing a variant updated vaccine*



 *See appendix for methodology

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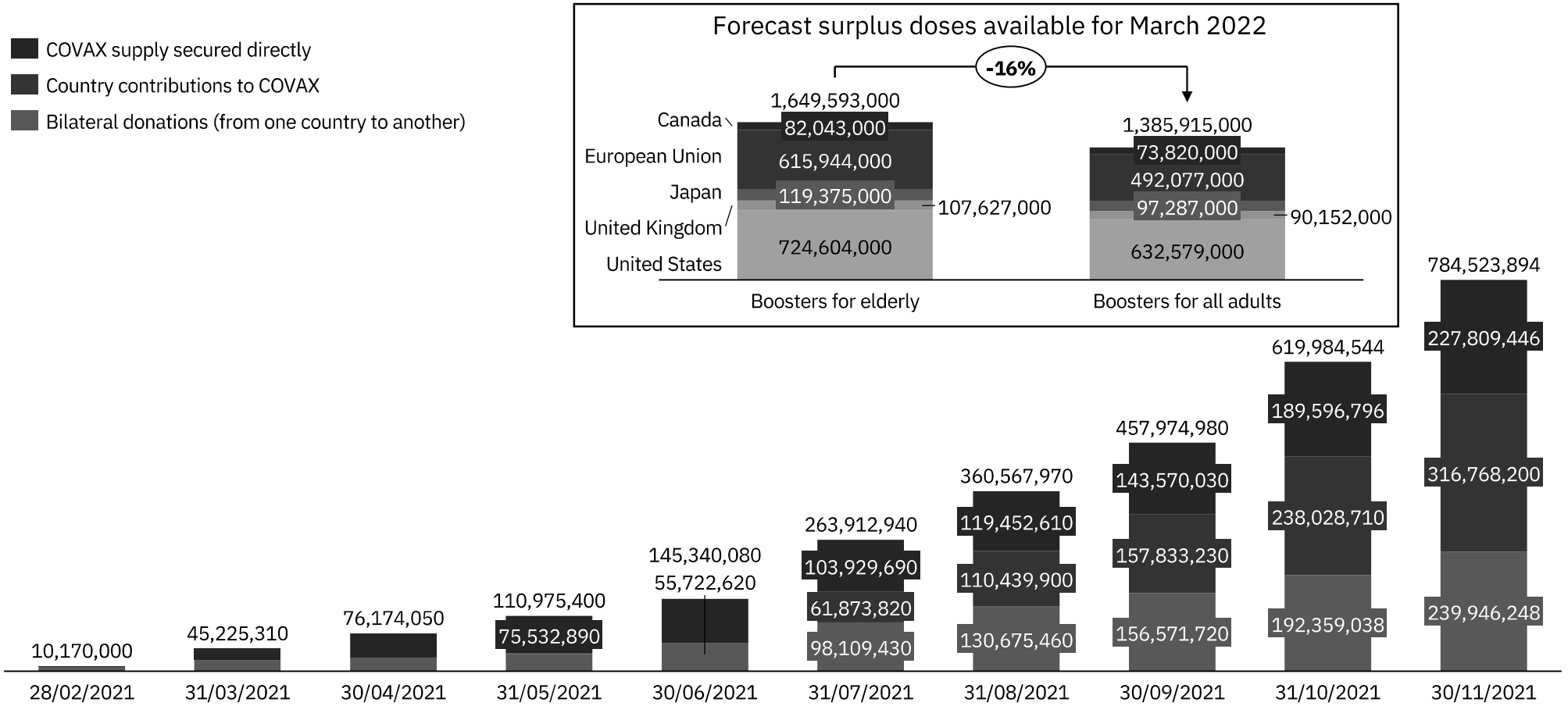
Significant increase seen in donations, either direct or through COVAX

Deliveries of vaccines through COVAX or through direct donations over time



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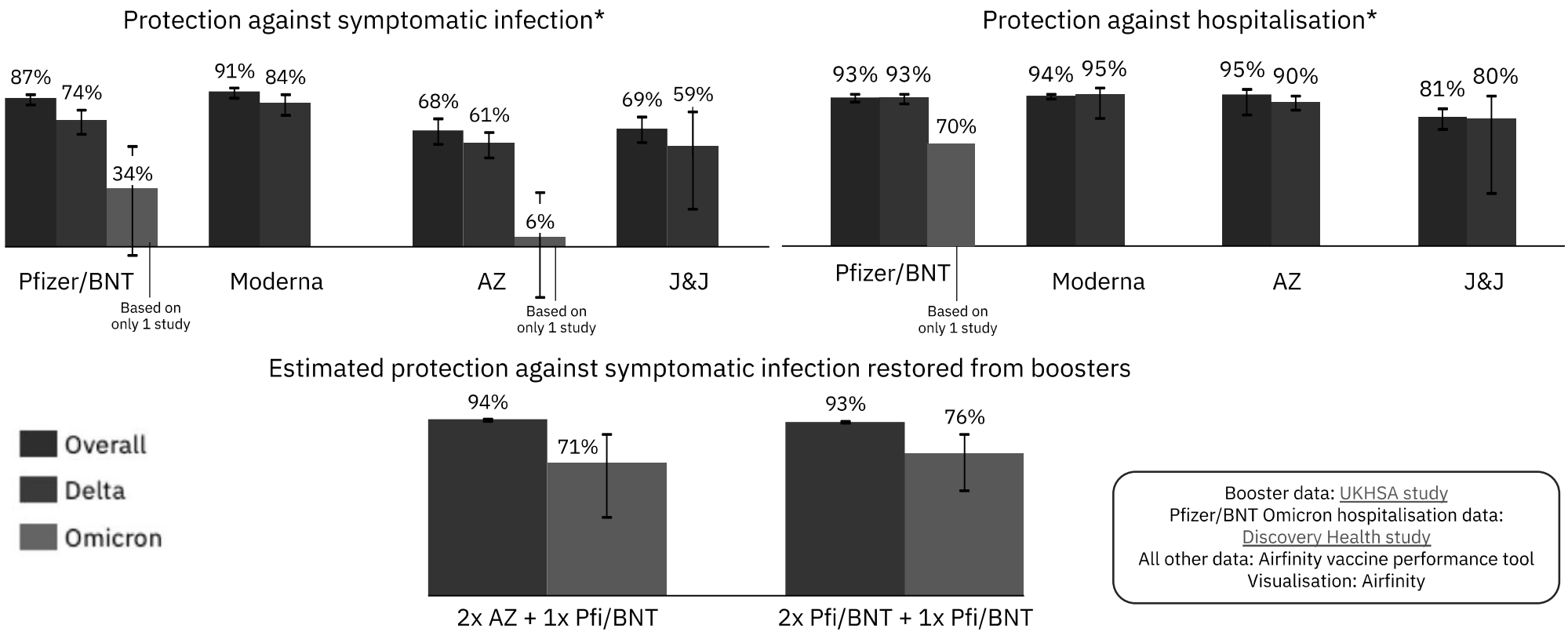
Significant impact on protection against infection from omicron, awaiting more data on hospitalisations and boosters

Comparison of vaccine effectiveness against different variants

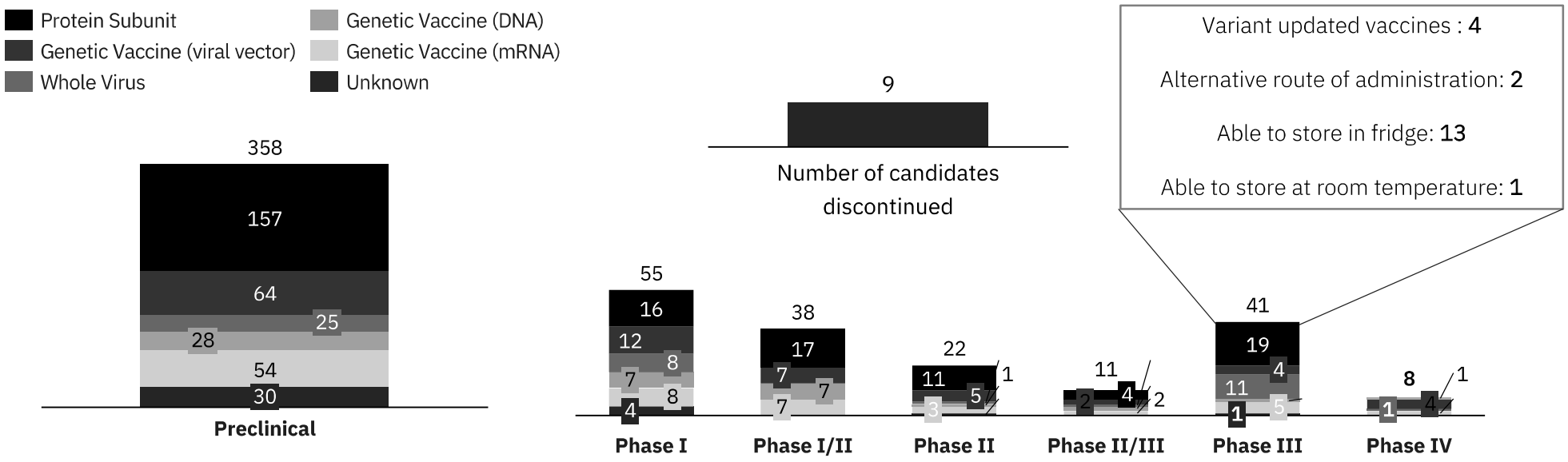


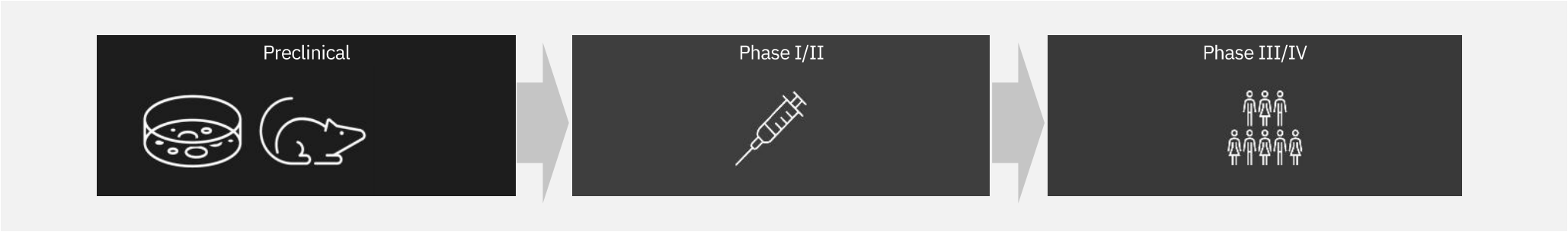
Booster data: UKHSA study
Pfizer/BNT Omicron hospitalisation data: Discovery Health study
All other data: Airfinity vaccine performance tool
Visualisation: Airfinity

Data on vaccine effectiveness against Omicron is extremely limited and based on a very small number of studies so should be interpreted with caution. This slide summarises what is currently published.

Promising COVID-19 vaccine candidates in the pipeline

Overview of candidates and clinical trial phase





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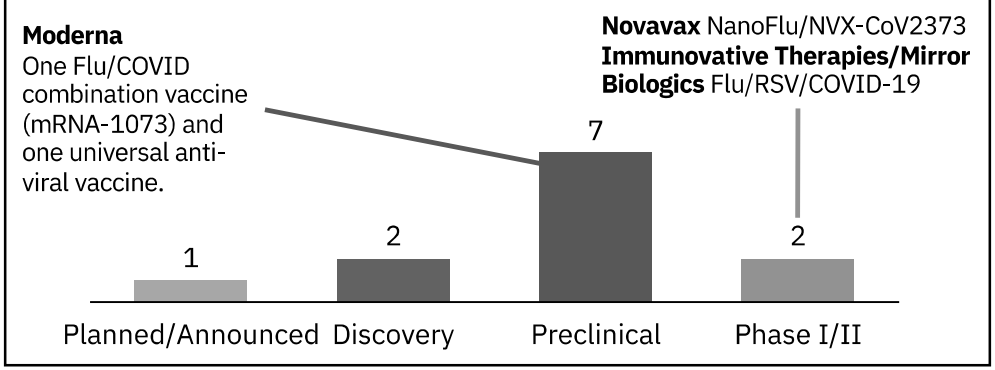
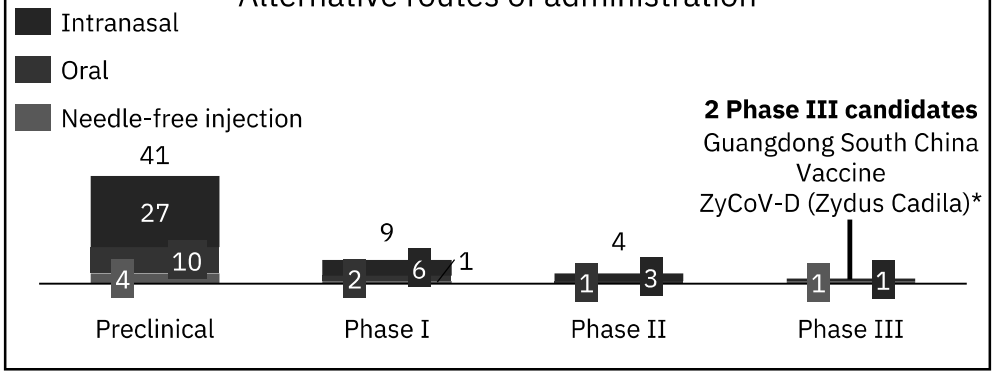
Lots of innovation expected in 2022 for COVID-19 vaccines

A summary of vaccines in the pipeline

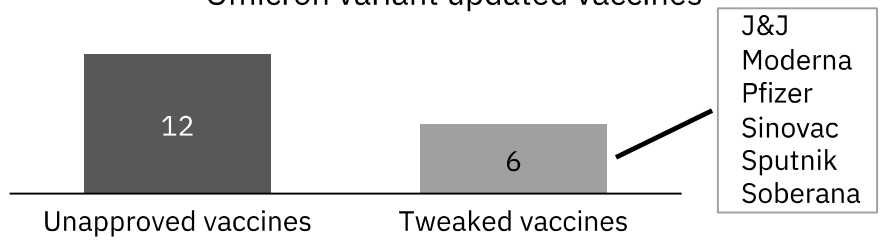
Flu/RSV/COVID-19 combination vaccines



Alternative routes of administration

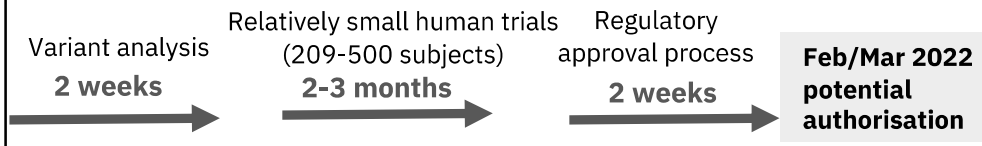


Omicron variant updated vaccines



Brand-new Omicron vaccines*

Tweaked Omicron vaccines



 *ZyCoV-D was approved for emergency use in India in September 2021

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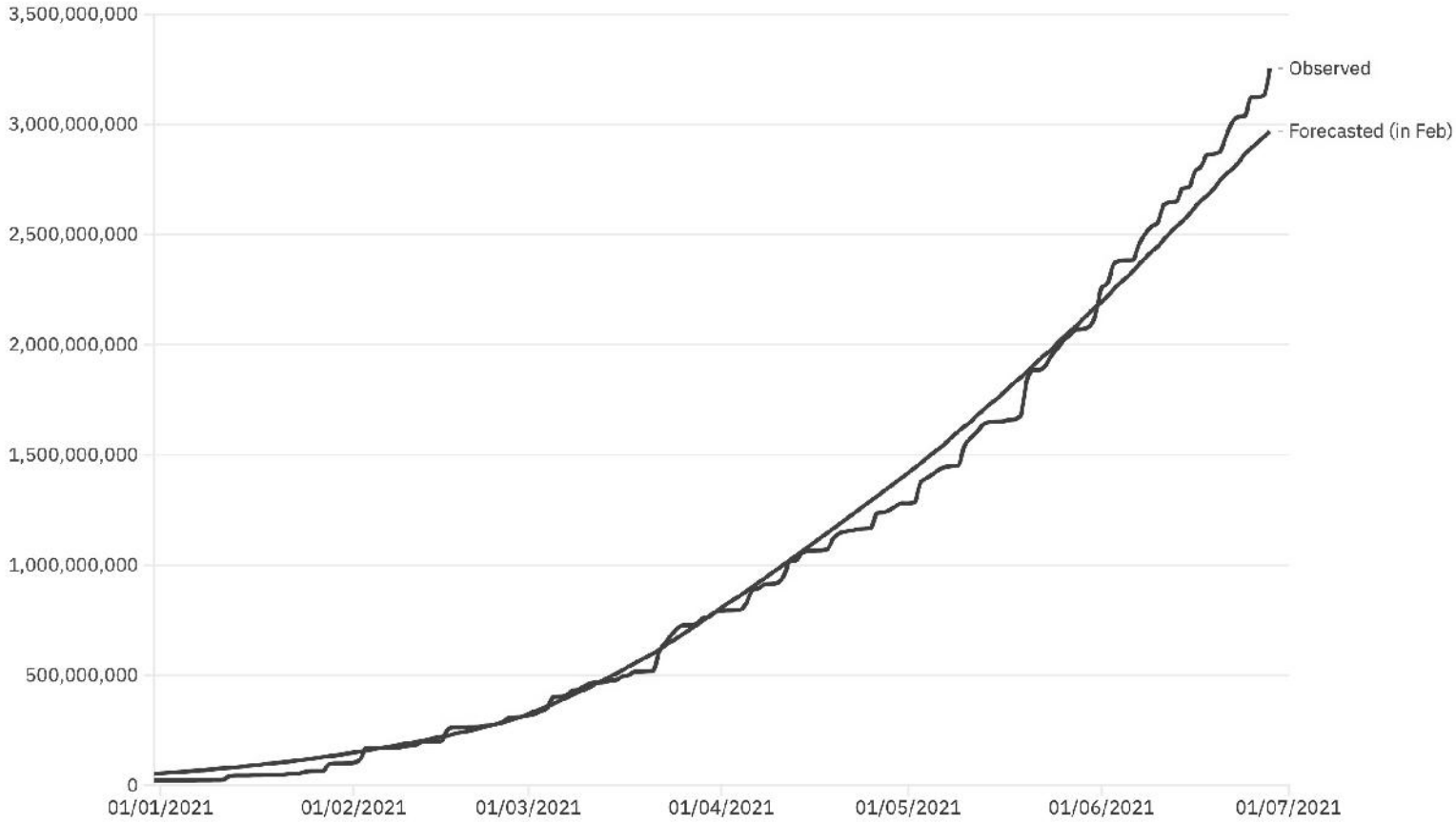
Airfinity forecasts have been realistic to observed production

Comparison of Airfinity forecasts (made in early February) vs observed production up until July



Appendix

Other vaccines mentioned in the production forecast

Other vaccines include
COVIran Barekat (Shifa Pharmed)
CoviVac (Chumakov Federal Scientific Center)
CoVLP (Medicago/GSK)
EpiVacCorona (VECTOR)
FINLAY-FR-2 (Finlay Vaccine Institute)
GRAd-COV2 (Reithera/LeukoCare/Univercells)
INO-4800 (Inovio Pharma)
LUNAR-COV19 (Arcturus)
MVC-COV1901 (Medigen/Dynavax)
NVX-CoV2373 (Novavax)
QazCovid-in (RI for Biological Safety Problems)
Razi Cov Pars (Razi Vaccine and Serum Research Institute)
S-268019 (Shionogi)
SCB-2019 (Clover/Dynavax)
UB-612 (Covaxx/Vaxxinity)
Vaccine (Sanofi/GSK)
VLA2001 (Valneva/Dynavax)
ZF2001 (Anhui Zhifei)
ZyCoV-D (Zydus Cadila)
Ad5-nCoV (CanSino)
CIGB-66 (Center for Genetic Engineering and Biotechnology (CIGB))

Appendix

Definitions for types of production

Definitions:

Source of materials:
Public announcements to supply raw materials for vaccine candidates

Distribution and storage:
Public announcements to distribute and/or store vaccines after production (separate from procurement deal)

Adjuvant:
Public announcements to produce and supply adjuvant for vaccine formulations

Fill and finish:
Public announcements to fill and finish vaccines into vials and syringes

Tech:
Public announcements to produce active vaccines or vaccine components.

Appendix

Studies included in the Airfinity vaccine meta effectiveness tool

Omicron study:

https://khub.net/documents/135939561/430986542/Effectiveness+of+COVID-19+vaccines+against+Omicron+variant+of+concern.pdf/f423c9f4-91cb-0274-c8c5-70e8fad50074

Number of studies used in Airfinity Meta analysis

	Pfizer-BNT	AstraZeneca	Moderna	J&J
Overall effectiveness	47	17	20	15
Effectiveness against Delta	16	8	9	2
Effectiveness against hospitalisations	16	5	10	11
Effectiveness against Delta hospitalisations	11	5	4	2

Methodology for production forecast in the scenario that 50% of production is diverted to a variant-updated vaccine

Appendix

In this scenario it is assumed that vaccine production is reduced by 50% for 3 months to implement production of a new variant-specific vaccine, then there is an exponential increase in Omicron-specific vaccine production over the following 3 months, bringing production back toa rate of 1.4 billion doses produced per month. Following this period, vaccine production continues at a constant rate equal to the rate at the end of 2021 (current rate). Here the total production of vaccines is separated by the cumulative production of vaccines targeting wild-type Covid-19 and Omicron-specific vaccines.

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More info.

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