

## Covid-19 vaccines move into pivotal development



Jacob Plieth

The start this week of pivotal studies for Moderna and Biontech/Pfizer’s respective mRNA projects will remind investors of the huge numbers of volunteers that companies plan to enrol into Covid-19 vaccine studies. No fewer than 180,000 participants are expected to take part in six such trials by the end of this year. Funding is also in the spotlight: with Moderna’s study of mRNA-1273 beginning yesterday the company also said it secured an additional \$472m of Barda funding – in addition to the earlier \$483m from US Project Warp Speed – to bridge a “gap” left because of an increased enrolment target. Followers of Biontech/Pfizer’s BNT162 project will note that it is BNT162b2 that has gone into phase III, not BNT162b1, which had [generated promising clinical data last week](#). The b2 variant codes for the full S-protein rather than the receptor-binding domain, which is the case for b1. Biontech says b2 has shown better tolerability than b1 while generating similar neutralising antibody titres. The group yesterday closed a \$512m US secondary equity offering, but it will not go unnoticed that its project has received no US taxpayer funding.

**Selected Covid-19 vaccines**

Project	Company	Ph3 protocol open?	Ph3 enrolment	Detail	Barda/Warp Speed funding (\$m)
mRNA-1273	Moderna	Yes	<a href="#">30,000</a>	mRNA vaccine	955
BNT162b2	Biontech/Pfizer	Yes	<a href="#">30,000</a>	mRNA vaccine	1,950*
AZD1222	Astrazeneca	14 Aug 2020	30,000	Chimp adenovirus vaccine in ph1	1,200
Ad26.COV2-S	Johnson & Johnson	23 Sep 2020	30,000	<a href="#">Adenovirus type 26 vaccine in ph1</a>	465
NVX-CoV2373	Novavax	15 Oct 2020	30,000	Nanoparticle vaccine; ph1 data early Aug	1,600
Not disclosed	Sanofi	25 Nov 2020	30,000	Several projects in preclinical development	0

*\*Dose order rather than development funding. Source: International Society for Vaccines meeting & company announcements.*

*This snippet has been updated to include the Warp Speed order of 100 million doses of Biontech/Pfizer's vaccine projects.*