Evaluate Vantage

June 27, 2022

Covid vaccine development could go Omicron-and-on

Madeleine Armstrong

Omicron-adapted boosters look good ahead of a key FDA panel, but will the virus soon outmanoeuvre them?

The big developers of Covid vaccines – plus Sanofi and GSK – recently touted data on their next-generation jabs' ability to fight the Omicron variant. With the FDA tomorrow set to discuss whether and how to update the viral strains in vaccines, it looks like a new generation of Covid shots could be approaching.

This will be good news for companies looking to extend sales of their jabs, but the virus is already moving on. This was neatly shown by Pfizer and Moderna, which both released neutralising antibody data suggesting that their Omicron-specific candidates were around threefold less effective against the increasingly dominant BA.4 and BA.5 subvariants versus the previous incumbent, BA.1.

Sanofi and GSK, meanwhile, claimed the first reported efficacy data against Omicron; other companies have focused so far on generating immunogenicity data with their variant-specific efforts.

Sanofi and GSK said their Beta-containing candidate, when used as a primary vaccine, produced efficacy of 72% against Omicron, much higher than the 58% overall efficacy seen with their original jab.

The companies did not give details on the prevalence of subvariants, but it is interesting that a vaccine against the Beta variant – which was long ago eclipsed – apparently also provides protection against Omicron.

Adcom approaching

But the spotlight at tomorrow's FDA adcom will be on Pfizer and its partner Biontech, and Moderna, the developers of the two US-approved mRNA vaccines.

Sellside analysts from Berenberg and SVB Securities think the companies have shown enough to get the nod for their Omicron-adapted boosters.

Talking points will include whether to plump for monovalent or bivalent approaches. Pfizer and Biontech's monovalent project appears to have performed better, based on immunogenicity data the companies released on Saturday. Moderna has not yet disclosed data for its monovalent candidate, mRNA-1273.529.

Latest Omicron-specific Covid vaccine data		
Project	**Company/ies**	**Latest data**
Omicron-adapted monovalent vaccine	Pfizer/Biontech	13.5-19.6-fold increase in neutralising antibodies against Omicron BA.1*
Omicron-adapted bivalent vaccine		9.1-10.9-fold increase in neutralising antibodies against Omicron BA.1*
mRNA-1273.214 (bivalent)	Moderna	5.4-fold increase in neutralising antibodies against Omicron BA.4/5 (eightfold increase previously reported against BA.1)
Adjuvanted bivalent D614 and Beta vaccine	Sanofi/GSK	72% efficacy in symptomatic Omicron cases
**In vitro data showed ~threefold lower activity against BA.4/5 vs BA.1. Source: company releases.*		

Berenberg reckons the simplicity of a monovalent versus bivalent approach could be attractive, but SVB believes that bivalent vaccines will prevail, noting that in past adcoms panellists had favoured a multivalent approach to help protect against the emergence of new variants.

Another question for the adcom is whether to change the viral strains found in primary vaccines or boosters, or both.

Of the six options laid out in the FDA's briefing documents, the third – which involves all boosters, but not the primary vaccine series, including an Omicron component – looks a likely outcome, according to Berenberg. Still, the make-up of primary vaccines is now largely irrelevant given that many people have already received their initial doses.

This fact is bad news for latecomers like Valneva, which last week finally got EU approval for VLA2001 as a primary vaccine.

There had been hopes that Valneva's shot, which employs a whole inactivated virus, could provide more robust protection against new variants than mRNA vaccines that encode the spike protein, which is susceptible to variation.

The group might not get a chance to find out: only around 15% of European adults are unvaccinated, according to Stifel, and Valneva has said that based on current orders VLA2001 would not be commercially viable.