WHO R&D Blueprint COVID-19 vaccines research

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What evidence do we have that omicron is evading immunity and what are the implications

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Image: Monica Birkhead,
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BNT162b plasma neutralisation

- Range in titres against D614G ancestral variant
- Between 9 to 556-fold reduction in titre against Omicron

18-fold reduction in GMT against Omicron

Bronwen Lambson, Frances Ayres, Prudence Kgagudi, Tandile Hermanus
AD26.COVS plasma neutralisation

- Range in titres against D614G ancestral variant
- Between 2 to 235-fold reduction in titre against Omicron

**Complete knock out of neutralization against Omicron**

Bronwen Lambson, Frances Ayres, Prudence Kgagudi, Tandile Hermanus
Effect of Omicron on ADCC responses after vaccination

- Reduction in ADCC activity for ChAdOx1 and BNT162b similar to that observed for other variants
- Higher reduction in ADCC activity for AD26.COV2.S, including knock-out of 40% of specimens

Reduction in ADCC across vaccine platforms, with AD26.COV.S plasma most affected
Effect of Omicron on ADCC responses after infection

Reduction in ADCC activity for Omicron similar regardless of prior infecting variant
Impact of Omicron immune escape in South Africa

Rapid increase in SARS-CoV-2 infections

![Graph showing the increase in SARS-CoV-2 infections across different provinces in South Africa, with a notable rise in Omicron cases.]

Significant increase in reinfection risk

![Graph showing the increase in reinfections, with a notable peak in 2021, particularly in Omicron cases.]

Replacement of other variants

![Graph showing the percent SGFT across different regions and weeks, with a significant rise in Omicron cases.]

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