23 February 2022   Risk assessment for SARS-CoV-2 variant: VUI-22JAN-01 (BA.2)   UK Health Security Agency

Indicator	Red, amber or green status*	Confidence level	Assessment and rationale
			As Omicron (BA.1) was the previous dominant variant in the United Kingdom (UK) this risk assessment uses the characteristics of BA.1 as the baseline (for example, amber indicates equivalence to BA.1).
Overall growth advantage	**Red**	**High**	**BA.2 is now dominant in England based on community testing data** The growth advantage of BA.2 compared to BA.1 is now visible in multiple countries with genomic surveillance. The growth advantage in England remains substantial. This growth advantage is also supported by the finding of increased household and non-household secondary attack rates for BA.2 compared to BA.1 (not adjusted for vaccination).
Growth advantage 1: Transmissibility	**Red**	**Moderate**	**It is likely that the transmission characteristics of BA.2 are contributing to its growth advantage** Preliminary laboratory data suggests an increase in ACE2 binding affinity for the BA.2 receptor binding domain compared to BA.1, which may influence transmissibility. A shorter serial interval is also seen through analysis of contact tracing data. Viral load data require further assessment. Given the apparent lack of immune evasion, it is likely that altered transmission characteristics are significant contributors to the growth advantage.
Growth advantage 2: Immune evasion	**Amber**	**Moderate**	**Immune evasion is unlikely to be a major contributor to the growth advantage** Neutralisation data from UK and international laboratories suggest a small antigenic distance between BA.1 and BA.2. However, sera from vaccinated and boosted individuals neutralise both variants similarly, although in some experiments a slight reduction in BA.2 neutralisation is seen. In preliminary data from the UK, hamsters previously infected with BA.1 are protected against subsequent BA.2 infection. There is no apparent reduction in vaccine effectiveness against symptomatic infection for BA.1 compared to BA.2 in the iterated test negative case control analysis using routine testing data in England. Small numbers of BA.2 reinfections occurring after BA.1 primary infections have been detected in the UK Office for National Statistics community survey and are also reported from Denmark. These events appear uncommon at present but many BA.1 infections are extremely recent. Population reinfection analysis will be iterated.
Infection severity	**Amber**	**Moderate**	**It is likely that the clinical severity of BA.2 is similar to that of BA.1** In preliminary animal data from the UK using SARS-COV-2 BA.2 virus, there was no evidence of increased virulence for BA.2 compared to BA.1, although international data based on chimeric virus studies is noted. There is no evidence of an increase in hospital attendance or admission for BA.2 compared to BA.1 in England. Similar findings have been published from South Africa.

* Refer to scale and confidence grading slide.