



1. Home (<https://www.gov.uk/>)
 2. Coronavirus (COVID-19) (<https://www.gov.uk/coronavirus-taxon>)
 3. COVID-19 variants: genomically confirmed case numbers (<https://www.gov.uk/government/publications/covid-19-variants-genomically-confirmed-case-numbers>)
- Public Health
England (<https://www.gov.uk/government/organisations/public-health-england>)

Research and analysis

Variants: distribution of cases data

Updated 22 April 2021

Contents

Variants of concern or under investigation: data up to 21 April 2021

Differences between a Variant of Concern and a Variant Under Investigation

Changes in nomenclature

VOC-20DEC-01

VOC-20DEC-02

VUI-21JAN-01

VOC-21JAN-02

VUI-21FEB-01

VOC-21FEB-02

VUI-21FEB-03

VUI-21FEB-04

VUI-21MAR-01

VUI-21MAR-02

VUI-21APR-01

[Print this page](#)



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Variants of concern or under investigation: data up to 21 April 2021

Surveillance overview

UK total distribution

Variant	Other names by which this variant may be known*	Lineage	Country in which first detected	Total confirmed cases [^]	New cases since last update (data up to 14 April)
<u>VOC-20DEC-01</u>	<u>VOC-202012/01</u>	B.1.1.7	England, UK	218,169	+8,677
<u>VOC-20DEC-02</u>	<u>VOC-202012/02</u>	501Y.V2 B.1.351	South Africa	670	+70
<u>VUI-21JAN-01</u>	<u>VUI-202101/01</u>	P.2	Brazil	59	0
<u>VOC-21JAN-02</u>	<u>VOC-202101/02</u>	P.1	Japan ex Manaus, Brazil	60	+20
<u>VUI-21FEB-01</u>	<u>VUI-202102/01</u>	A.23.1 with E484K	England, UK	79	0
<u>VOC-21FEB-02</u>	<u>VOC-202102/02</u>	B.1.1.7 with E484K	England, UK	43	0
<u>VUI-21FEB-03</u>	<u>VUI-202102/03</u>	B.1.525 (previously designated UK1188)	England, UK	372	+11
<u>VUI-21FEB-04</u>	<u>VUI-202102/04</u>	B1.1.318	TBC	144	+31
<u>VUI-21MAR-01</u>	<u>VUI-202103/01</u>	B1.324.1 with E484K	TBC	2	0
<u>VUI-21MAR-02</u>	N/A	P.3	TBC	5	0
<u>VUI-21APR-01</u>	N/A	B.1.617	India	132	+55

* Currently, there is no agreed international naming system for variants.

** Genomically confirmed cases are those where all lineage defining positions can be assessed. Probable cases are those where the sequencing is of a lower quality and not all lineage defining positions are called. Full case definitions.

^ Confirmed and probable genomic confidence categories assigned to each case have been unified into a single confirmed category. This is being done as a probable genomic confidence indicates a ~99% confidence in variant assignment and the public health significance is the same.

The VOC-20DEC-01 variant was first detected in the UK and was first sequenced in the UK in September 2020.

The VOC-20DEC-02 variant was first detected in South Africa and was first sequenced in the UK in December 2020.

The VUI-21JAN-01 variant was first detected in Brazil and was first sequenced in the UK in November 2020.

The VOC-21JAN-02 variant was first detected in Japan in travellers from Brazil in January 2021 and was first detected in the UK in February 2021.

The VUI-21FEB-01 variant was first detected in the UK in December 2020.

The VOC-21FEB-02 variant was first detected in the UK in December 2020.

The VUI-21FEB-03 variant was first detected in the UK in December 2020.

The VUI-21FEB-04 variant's location of first detection is to be confirmed.

The VUI-21MAR-01 variant's location of first detection is to be confirmed.

The VUI-21MAR-02 variant's location of first detection is to be confirmed.

The VUI-21APR-01 variant was first detected in India.

Differences between a Variant of Concern and a Variant Under Investigation

SARS-CoV-2 variants, if considered to have concerning epidemiological, immunological or pathogenic properties, are raised for formal investigation. At this point they are designated Variant Under Investigation (VUI) with a year, month, and number. Following a risk assessment with the relevant expert committee, they may be designated Variant of Concern (VOC).

Changes in nomenclature

The previous variant names frequently include similar numbers with similar or repeating patterns. This makes referring to them verbally challenging. To overcome this challenge, a revised nomenclature has been agreed involving dropping the first 2 numbers of the year and replacing the 2-month numbers with a 3-letter abbreviation. This shortens the name and reduces the degree of repeated sequences of numbers. The table containing surveillance overview 'UK total distribution' contains a list of new variant names alongside previous or other names in use for VOCs and VUIs.

VOC-20DEC-01**Surveillance overview****UK distribution – summary of 4 nations distribution**

This variant was first detected in the UK and was first sequenced in the UK in September 2020.

	Total confirmed cases
England	185,216
Scotland	18,659
Wales	11,418
Northern Ireland	2,876
Total cases	218,169

Case definitions

Genomic match	Criteria
Confirmed	COVID-19* confirmed case with at least 5 VOC-20DEC-01 lineage defining positions are called as alternate (variant) base and all other defining positions reported as N (unknown) or mixed bases.
Low-quality genome (LQG)	COVID-19* confirmed case where fewer than 4 lineage defining positions are called as alternate (variant) base and all other defining positions reported as N (unknown) or mixed bases.

*A confirmed COVID-19 case: an individual who is confirmed to be infected with SARS-CoV-2 by polymerase chain reaction (PCR).

VOC-20DEC-02**Surveillance overview****UK distribution – summary of 4 nations distribution**

This variant was first detected in South Africa and was first sequenced in the UK in December 2020.

	Total confirmed cases
England	592
Scotland	32
Wales	37
Northern Ireland	9
Total cases	670

Case definitions

Genomic match	Criteria
Confirmed	COVID-19* confirmed case where: <ul style="list-style-type: none"> • at least 4 VOC-20DEC-02 lineage defining positions are called as alternate (variant) base, and • all other defining positions reported as N (unknown) or mixed bases or • at least 5 of the 9 non-synonymous changes
High-risk low-quality genome (HR-LQG)	COVID-19* confirmed case where: <ul style="list-style-type: none"> • fewer than 4 positions are called but at least one is called as alternate (variant) base, and • all other defining positions reported as N (unknown) or mixed bases or • at least one but fewer than 5 of the 9 non-synonymous changes, and • fewer than 5 wild type calls

*A confirmed COVID-19 case: an individual who is confirmed to be infected with SARS-CoV-2 by polymerase chain reaction (PCR).

VUI-21JAN-01

Surveillance overview

UK distribution – summary of 4 nations distribution

This variant was first detected in Brazil and was first sequenced in the UK in November 2020.

	Total confirmed cases

	Total confirmed cases
England	53
Scotland	5
Wales	1
Northern Ireland	0
Total cases	59

Case definitions

Genomic match	Criteria
Confirmed	<p>COVID-19* case confirmed as infected with VUI-21JAN-01 through whole genome sequencing (WGS) where:</p> <ul style="list-style-type: none"> • results of all lineage defining non-synonymous changes called as alternate base or • 6 of 7 non-synonymous changes called as alternate base, and • remaining position either N or mixed bases
High-risk low-quality genome (HR-LQG)	<p>COVID-19* confirmed case where fewer than 6 positions are called but at least one is called as alternate (variant) base and all other defining positions reported as N (unknown) or mixed bases</p>

*A confirmed COVID-19 case: an individual who is confirmed to be infected with SARS-CoV-2 by polymerase chain reaction (PCR).

VUI-21JAN-02

Surveillance overview

UK distribution – summary of 4 nations distribution

This variant was first detected in Japan in travellers from Brazil in January 2021 and was first detected in the UK in February 2021.

	Total confirmed cases
England	51
Scotland	9

	Total confirmed cases
Wales	0
Northern Ireland	0
Total cases	60

Case definitions

Genomic match	Criteria
Confirmed	COVID-19* confirmed case with: <ul style="list-style-type: none"> • at least 5 lineage defining non-synonymous changes called as alternate base, and • all other positions either N or mixed bases
High-risk low-quality genome (HR-LQG)	COVID-19* confirmed case where: <ul style="list-style-type: none"> • fewer than 5 positions are called but at least one is called as alternate (variant) base, and • all other defining positions reported as N (unknown) or mixed bases

*A confirmed COVID-19 case: an individual who is confirmed to be infected with SARS-CoV-2 by polymerase chain reaction (PCR).

VUI-21FEB-01

Surveillance overview

UK distribution – summary of 4 nations distribution

This variant was first detected in the UK in December 2020.

	Total confirmed cases
England	79
Scotland	0
Wales	0
Northern Ireland	0
Total cases	79

Case definitions

Genomic match	Criteria
Confirmed	COVID-19* confirmed case with: <ul style="list-style-type: none"> • at least 5 lineage defining non-synonymous changes called as alternate base, and • all other positions either N or mixed base or <ul style="list-style-type: none"> • at least 5 of the 9 non-synonymous changes
High-risk low-quality genome (HR-LQG)	COVID-19* confirmed case where: <ul style="list-style-type: none"> • fewer than 5 positions are called but at least one is called as alternate (variant) base, and • all other defining positions reported as N (unknown) or mixed bases

*A confirmed COVID-19 case: an individual who is confirmed to be infected with SARS-CoV-2 by polymerase chain reaction (PCR).

VOC-21FEB-02

Surveillance overview

UK distribution – summary of 4 nations distribution

This variant was first detected in the UK in December 2020.

	Total confirmed cases
England	43
Scotland	0
Wales	0
Northern Ireland	0
Total cases	43

Case definitions

Genomic match	Criteria
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Genomic match	Criteria
Confirmed	COVID-19* case confirmed as infected with <u>VOC-21FEB-02</u> through whole genome sequencing (WGS) where results of all lineage defining non-synonymous changes called as alternate bases.
High-risk low-quality genome (HR-LQG)	COVID-19* confirmed case where <ul style="list-style-type: none"> • probable or confirmed <u>VOC-20DEC-01</u>, and • fewer than 4 positions are called but at least one is called as alternate (variant) base, and • all other defining positions reported as N (unknown) or mixed bases

*A confirmed COVID-19 case: an individual who is confirmed to be infected with SARS-CoV-2 by polymerase chain reaction (PCR).

VUI-21FEB-03

Surveillance overview

UK distribution – summary of 4 nations distribution

This variant was first detected in the UK in December 2020.

	Total confirmed cases
England	334
Scotland	28
Wales	10
Northern Ireland	0
Total cases	372

Case definitions

Genomic match	Criteria
Confirmed	COVID-19* confirmed case with: <ul style="list-style-type: none"> • at least 5 lineage defining non-synonymous changes called as alternate base, and • all other positions either N or mixed base

Genomic match	Criteria
High-risk low-quality genome (HR-LQG)	COVID-19* confirmed case where: <ul style="list-style-type: none"> • fewer than 5 positions are called but at least one is called as alternate (variant) base, and • all other defining positions reported as N (unknown) or mixed bases

*A confirmed COVID-19 case: an individual who is confirmed to be infected with SARS-CoV-2 by polymerase chain reaction (PCR).

VUI-21FEB-04

Surveillance overview

UK distribution – summary of 4 nations distribution

This variant's location of first detection is to be confirmed.

	Total confirmed cases
England	135
Scotland	9
Wales	0
Northern Ireland	0
Total cases	144

Case definitions

Genomic match	Criteria
Confirmed	COVID-19* confirmed case with: <ul style="list-style-type: none"> • at least 5 lineage defining non-synonymous changes called as alternate base, and • all other positions either N or mixed base or <ul style="list-style-type: none"> • at least 5 of the 9 non-synonymous changes

Genomic match	Criteria
High-risk low-quality genome (HR-LQG)	COVID-19* confirmed case where: <ul style="list-style-type: none"> • fewer than 5 positions are called but at least one is called as alternate (variant) base, and • all other defining positions reported as N (unknown) or mixed bases

*A confirmed COVID-19 case: an individual who is confirmed to be infected with SARS-CoV-2 by polymerase chain reaction (PCR).

VUI-21MAR-01

Surveillance overview

UK distribution – summary of 4 nations distribution

This variant's location of first detection is to be confirmed.

	Total confirmed cases
England	2
Scotland	0
Wales	0
Northern Ireland	0
Total cases	2

Case definitions

Genomic match	Criteria
Confirmed	COVID-19* case confirmed as infected with VUI-21MAR-01 through whole genome sequencing (WGS) where results of all lineage defining non-synonymous changes called as alternate bases.
High-risk low-quality genome (HR-LQG)	COVID-19* confirmed case where: <ul style="list-style-type: none"> • fewer than 8 variant defining changes called as alternate base, and • all other positions either N or mixed base

*A confirmed COVID-19 case: an individual who is confirmed to be infected with SARS-CoV-2 by polymerase

chain reaction (PCR).

V.001-21MAR-02

Surveillance overview

UK distribution – summary of 4 nations distribution

This variant's location of first detection is to be confirmed.

	Total confirmed cases
England	5
Scotland	0
Wales	0
Northern Ireland	0
Total cases	5

Case definitions

Genomic match	Criteria
Confirmed	COVID-19* confirmed case with: <ul style="list-style-type: none"> • at least 7 variant defining changes called as alternate base, and • all other positions either N or mixed base
High-risk low-quality genome (HR-LQG)	COVID-19* confirmed case where: <ul style="list-style-type: none"> • fewer than 7 positions are called but at least one is called as alternate base, and • all other positions reported as N (unknown) or mixed bases

*A confirmed COVID-19 case: an individual who is confirmed to be infected with SARS-CoV-2 by polymerase chain reaction (PCR).

V.001-21APR-01

Surveillance overview

UK distribution – summary of 4 nations distribution

This variant was first detected in India.

	Total confirmed cases
England	119
Scotland	5
Wales	8
Northern Ireland	0
Total cases	132

Case definitions

Genomic match	Criteria
Confirmed	COVID-19* confirmed case with: <ul style="list-style-type: none"> • at least 5 variant defining changes called as alternate base, and • all other positions either N or mixed base
High-risk low-quality genome (HR-LQG)	COVID-19* confirmed case where: <ul style="list-style-type: none"> • fewer than 5 positions are called but at least one is called as alternate base, and • all other defining positions reported as N or mixed base

*A confirmed COVID-19 case: an individual who is confirmed to be infected with SARS-CoV-2 by polymerase chain reaction (PCR).

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