

COVID-19 RADAR



Christmas Issue – Christmas Eve

COVID-19 Research Action Digest And Review

From the Editor's desk: Welcome to the Christmas edition of your COVID19 RADAR. Now we carry a new section “Key topics in this issue” so that RADAR readers at a glance can come to know of the topics and can review the ones of interest to them.



RADAR wishes all its readers a safe Christmas. We will take a break and be back in the New Year.

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COVID19: Battle for Lives and Livelihood – Is this our Dunkirk moment? RADAR posed this question on the pages of the British Medical Journal with the discovery of the more infectious variant of the virus and cases starting to rise again in many parts of the country. [In this BMJ piece](#) RADAR concludes “Just like the “Operation Dynamo” in 1940 we need “Operation Ultimate Victory” in 2020 and beyond. We have done it once during the darkest hour and won and we will do it again against this virus and we will prevail – History will and must repeat itself!”

[New Variant of the virus discovered](#)

Data from Whole Genome Sequencing, epidemiology and modelling suggest the new variant ‘VUI – 202012/01’ (the first Variant Under Investigation in December 2020)

transmits more easily than other variants. There is currently no evidence that the variant is more likely to cause severe disease or mortality – but Public Health England are continuing investigations to understand this better. The way to control this virus is the same, whatever the variant. It will not spread if we avoid close contact with others. Wash your hands, wear a mask, keep your distance from others, and reduce your social contacts.

[BBC on the new variant](#)

Why is this variant causing concern?

Three things are coming together that mean it is attracting attention:

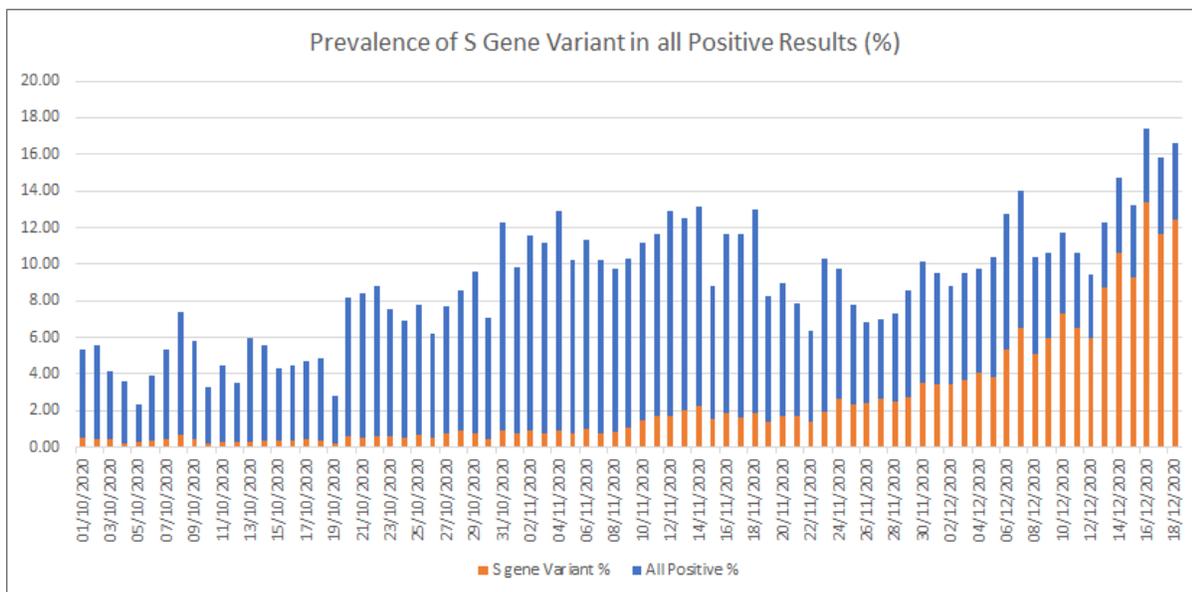
It is rapidly replacing other versions of the virus

It has mutations that affect part of the virus likely to be important

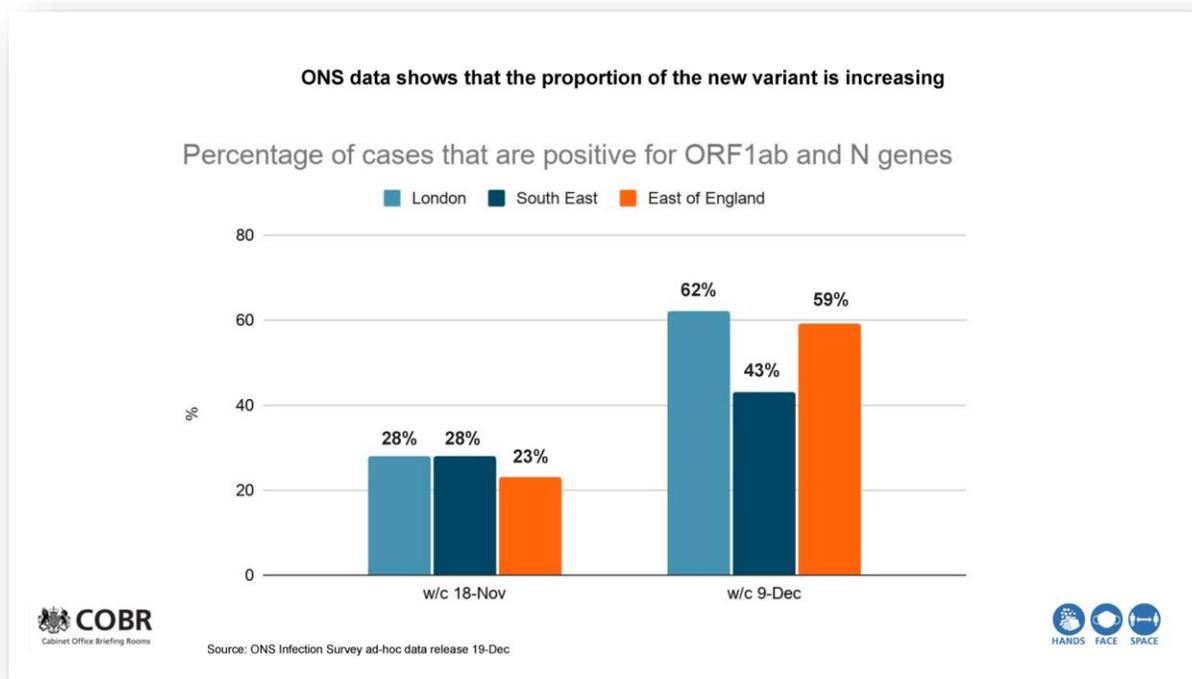
Some of those mutations have already been shown in the lab to increase the ability of the virus to infect cells

How much faster is it spreading?

It was first detected in September. In November around a quarter of cases in London were the new variant. This reached nearly two-thirds of cases in mid-December. The figures below show how the variant has come to dominate the results of testing in some centres such as the Milton Keynes Lighthouse Laboratory.



Data from Office of National Statistics show that the new variant is rapidly replacing the old strain especially in London, South East & East of England

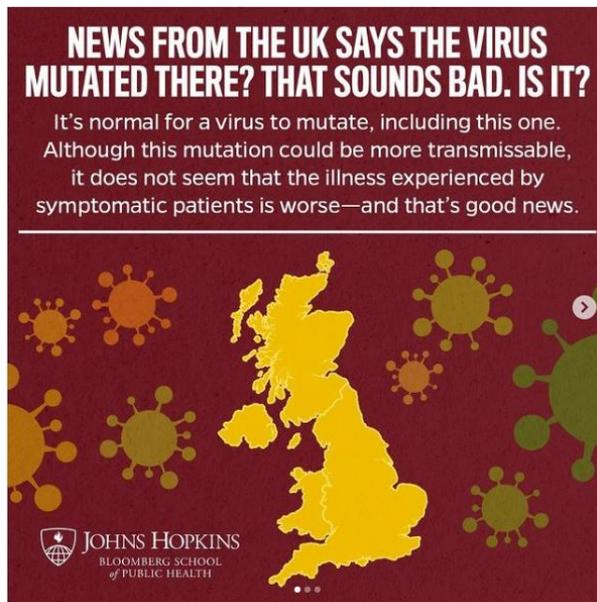


Threat Assessment Brief: Rapid increase of a SARS-CoV-2 variant with multiple spike protein mutations observed in the United Kingdom

The European Centre for Disease Control [has produced a brief](#) on the new variant. According to the brief over the last few weeks, the United Kingdom (UK) has faced a rapid increase in COVID-19 cases in South East England, leading to enhanced epidemiological and virological investigations. Analysis of viral genome sequence data identified a large proportion of cases belonged to a new single phylogenetic cluster. The new variant is defined by multiple spike protein mutations (deletion 69-70, deletion 144, N501Y, A570D, D614G, P681H, T716I, S982A, D1118H) present as well as mutations in other genomic regions. While it is known and expected that viruses constantly change through mutation leading to the emergence of new variants, preliminary analysis in the UK suggests that this variant is significantly more transmissible than previously circulating variants, with an estimated potential to increase the reproductive number (R) by 0.4 or greater with an estimated increased transmissibility of up to 70%. This new variant has emerged at a time of the year when there has traditionally been increased family and social mixing. There is no indication at this point of increased infection severity associated with the new variant. A few cases with the new variant have to date been reported by Denmark and the Netherlands and, according to media reports, in Belgium.

John's Hopkin's update from USA: Reports about a recently observed strain of SARS-CoV-2 in the UK raised concerns, and epidemiologists are paying close attention to the situation, but the guidance for most people has not changed: The precautions remain the same (mask, keep distance when possible, avoid close contact indoors). While the new strain appears to be more

transmissible, there is no indication that it causes more severe illness, and it is expected that the approved vaccines will work just as well on this strain. The pictorial update is reproduced below.



Implications of the Emerging SARS-CoV-2 Variant VOC 202012/01: The Centre for Disease Control produced [its own update](#). According to CDC a new variant strain of SARS-CoV-2 that contains a series of mutations has been described in the United Kingdom (UK) and become highly prevalent in London and southeast England. Based on these mutations, this variant strain has been predicted to potentially be more rapidly transmissible than other circulating strains of SARS-CoV-2. Although a variant may predominate in a geographic area, that fact alone does not mean that the variant is more infectious. Scientists are working to learn more about this variant to better understand how easily it might be transmitted and whether currently authorized vaccines will protect people against it. At this time, there is no evidence that this variant causes more severe illness or increased risk of death. Information regarding the virologic, epidemiologic, and clinical characteristics of the variant are rapidly emerging. CDC, in collaboration with other public health agencies, is monitoring the situation closely. CDC will communicate new information as it becomes available.

The CDC also addressed the question “Have we seen this variant in the United States?”

The VOC 202012/01 variant has not been identified through sequencing efforts in the United States, although viruses have only been sequenced from about 51,000 of the 17 million US cases. Ongoing travel between the United Kingdom and the United States, as well as the high prevalence of this variant among current UK infections, increase the likelihood of importation. Given the small fraction of US infections that have been

sequenced, the variant could already be in the United States without having been detected.

Emergence and rapid spread of a new severe acute respiratory syndrome-related coronavirus 2 (SARS-CoV-2) lineage with multiple spike mutations in South Africa

Continued uncontrolled transmission of the severe acute respiratory syndrome-related coronavirus 2 (SARS-CoV-2) in many parts of the world is creating the conditions for significant virus evolution. [In this paper](#), the authors describe a new SARS-CoV-2 lineage (501Y.V2) characterised by eight lineage-defining mutations in the spike protein, including three at important residues in the receptor-binding domain (K417N, E484K and N501Y) that may have functional significance. This lineage emerged in South Africa after the first epidemic wave in a severely affected metropolitan area, Nelson Mandela Bay, located on the coast of the Eastern Cape Province. This lineage spread rapidly, becoming within weeks the dominant lineage in the Eastern Cape and Western Cape Provinces. Whilst the full significance of the mutations is yet to be determined, the genomic data, showing the rapid displacement of other lineages, suggest that this lineage may be associated with increased transmissibility.

Covid: New variant found 'due to hard work of UK scientists'

[According to BBC](#) a new variant of the virus causing Covid-19, first spotted in Kent, could already be circulating - or have originated from - outside the UK. But it was spotted here because of the strength of the UK's surveillance system, scientists have said. The Covid-19 Genomics Consortium (Cog-UK) has tracked the genetic history of more than 150,000 samples of Sars-Cov-2 virus. That equates to about half the world's genetic sequencing of coronavirus. Prof Sharon Peacock, head of Cog-UK, said the UK's high level of genomic surveillance meant "if you're going to find something anywhere, you're going to find it probably here first". "We are sequencing in the UK at a disproportionate rate," it was "no coincidence" that an "interesting" multiple mutation had also been seen in South Africa, another country which does a lot of genomic sequencing. Other European countries which were very quick to pick up notable mutations, Denmark and the Netherlands, also have strong surveillance systems.

Coronavirus: New York City orders international visitors to quarantine

New York City has [introduced quarantine rules](#) for international travellers following emergence of new Covid variants in countries like the UK. Mayor Bill de Blasio said all visitors would be ordered to stay for 14 days at the address they provided on arrival. He said anyone arriving from the UK would be visited by sheriff's deputies to ensure they abide by the rules. Those who breach them will be fined \$1,000 (£737) a day, Mr de Blasio warned.

Rapid evaluation confirms lateral flow devices effective in detecting new COVID-19 variant: Public Health England (PHE) has confirmed that lateral flow devices (LFDs) used in mass testing can detect the new COVID-19 variant. [This rapid evaluation](#) confirms that

lateral flow devices can detect the new variant. This is good news as it means they can continue to be used to find people who have COVID-19 without symptoms who might be unknowingly passing it on. Lateral flow devices alone aren't a silver bullet for stopping the spread of the virus, but we know they can help detect large numbers of positive cases quickly. When used in combination with other infection prevention control measures, they are another vital tool to help us combat the spread of the virus.

Pressure on hospitals

[According to the Health Services Journal](#) all seven NHS England regions are now struggling under covid inpatient demand not seen since the peak of the pandemic in April. At the same time, deaths of covid positive hospital patients have started to rise once more. The number of covid positive inpatients in English hospitals rose 2,256 to 16,183 over the seven days to 19 December. The 16.2 per cent increase compares to one of 7.4 per cent in the previous seven-day period, underlining the accelerating nature of the pandemic. The number of inpatients has now been increasing for a fortnight at an average rate of 229 a day. If that rate is maintained, the English NHS will end 2020 with approximately the same number of covid positive inpatients as at the peak of the pandemic on 12 April. The largest rise in covid inpatients came in London, up 817 (39 per cent) to 2,909 on the 12 December figure. The capital last recorded a similar number on 28 April. Inpatient numbers in the eastern region jumped 536 (38 per cent) to 1,943. This is the highest ever total recorded in the region, far outstripping the first wave peak of 1,679 seen on 12 April.

Hospital acquired COVID

[Health Services Journal is reporting](#) 35 per cent rise in probable hospital-acquired covid-19 from 6 to 13 December which is the highest weekly increase since 30 October. This has implications for both patients and NHS as the system is doing its best to care for COVID patients and those with other conditions in need of clinical care.

The Exercise of Commissioning Functions by the NHS Commissioning Board (Coronavirus) Directions 2020

[These directions](#) enable NHS England to commission healthcare from independent sector providers to support the provision of services by the NHS to address the coronavirus (COVID-19) emergency. This power will last until 31 March 2021.

One USA critical care nurse's plea to take COVID seriously that went viral

Nebraska ICU nurse Lacie Gooch recorded a [video of herself](#) after a long shift talking about the overwhelming number of people dying in hospitals from COVID-19. She explains why frontline health care workers are taking to social media to describe the desperate situation and to beg people to wear masks and social distance, especially ahead of the holidays. Gooch also talks about how the overwhelming rise of COVID cases could mean hospitals will be unable to provide care for other emergencies like heart

attacks or car accidents. Although released a month ago on the 24th of November this is still relevant for most countries who are experiencing a surge.

Tier 4 expanded from Boxing day

[In a statement](#) on 23rd December Health and Social Care Secretary's declared "from one minute past midnight on Boxing Day, Sussex, Oxfordshire, Suffolk, Norfolk and Cambridgeshire, those parts of Essex not yet in Tier 4, Waverley in Surrey, and Hampshire, including Portsmouth and Southampton, but with the exception of the New Forest, will be escalated to Tier 4. He also announced various other tier moves across the country.

Hospital hubs and vaccination centres: Most recent list of Hospital hubs and local vaccination Centres can be accessed [here](#). Two Rivers Medical Centre & Swan surgery from the two Suffolk CCGs are listed.

Shielding advice for those in Tier 4: Currently, clinically extremely vulnerable people in Tier 4 areas are advised to follow shielding advice. No other areas are currently advised to shield. [COVID19: guidance on shielding and protecting](#) people defined on medical grounds as extremely vulnerable - Information for shielding and protecting people defined on medical grounds as extremely vulnerable from COVID-19.

Suspected coronavirus (COVID-19): important information to keep you safe while isolating at home: Leaflet for those isolating at home is available [here](#)

Guidance for stepdown of infection control precautions and discharging COVID-19 patients: [This guidance](#) provides advice on appropriate infection prevention and control (IPC) precautions for patients recovering or recovered from coronavirus (COVID-19), and who are remaining in hospital, being discharged to their own home, or being discharged to residential care

CQC COVID insight on designated settings and care home capacity: [According to CQC insight](#) there is a wide variation. The lowest figure of designated beds per 100 care home beds is in the South East (0.19) and the highest figure is in London (1.00). There is a similar level of variation by looking at the number of designated beds against the number of people over 65.

Rural, remote and at risk: Why rural health services face a steep climb to recovery from Covid-19: [According to Nuffield Trust](#) rural areas face specific issues in their recovery efforts. In Suffolk West Suffolk Hospital Trust has been classified as a rural trust in the report. Key points are:

- Rural and remote areas experienced problems that differentiate them from their more urban counterparts even before the Covid-19 pandemic. However, the pandemic has both exacerbated some of these challenges, as well as thrown up new ones.
- Covid-19 has had a more detrimental effect on hospital waiting times in rural and remote trusts than for trusts in more urban areas. In April 2020, the proportion of patients seen

for their first consultant appointment for cancer fell by two-thirds (66%) in rural trusts compared with April 2019, whereas a decrease of 59% was seen in trusts located in more urban areas.

- Activity has fallen particularly dramatically in rural areas. Emergency admissions in April to June 2020 fell by 57% in rural trusts compared with the year before, while they fell by 45% elsewhere. The level of referral for talking therapies – via the Improving Access to Psychological Therapies (IAPT) programme – in rural areas was below half the level in April 2020 than it was a year before.

Course of the week: COVID marshal training: COVID marshals play an important role in delivering the Government's strategy to reduce the spread of COVID-19. Local authorities have been encouraged to introduce them to help ensure people feel safe to enjoy our high streets and public spaces. [This COVID marshal training](#) has been designed to provide delegates with the confidence and knowledge they need to effectively perform their role.

Evidence for border closures: What the data say about border closures as a tool to combat COVID spread - [Models estimate](#) that travel restrictions worked early in the pandemic but became less effective throughout the year. The World Health Organisation is working on producing guidance on border closures going forward.

Guidance for patients, the public and professional users to COVID-19 tests and testing kits is now available and can be accessed [here](#)

The 1918 Influenza Epidemic in New York City: A Review of the Public Health Response

[This piece from 100 years ago](#) written in the period of a large major pandemic is still very relevant and very much resonates with our current thinking. "New York City approached the 1918 influenza epidemic by making use of its existing robust public health infrastructure. Health officials worked to prevent the spread of contagion by distancing healthy New Yorkers from those infected, increasing disease surveillance capacities, and mounting a large-scale health education campaign while regulating public spaces such as schools and theaters. Control measures, such as those used for spitting, were implemented through a spectrum of mandatory and voluntary measures. Most of New York City's public health responses to influenza were adapted from its previous campaigns against tuberculosis, suggesting that a city's existing public health infrastructure plays an important role in shaping its practices and policies during an epidemic.

The debate on keeping the schools open is very apt now as debate the reopening of our schools in the New Year. "New York is a great cosmopolitan city and in some homes there is careless disregard for modern sanitation... In schools the children are under the constant guardianship of the medical inspectors. This work is part of our system of disease control. If the schools were closed at least 1,000,000 would be sent to their

homes and become 1,000,000 possibilities for the disease. Furthermore, there would be nobody to take special notice of their condition

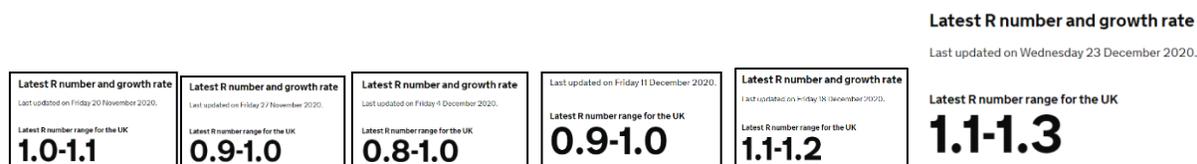
Gates Notes – Blog of Bill Gates - These breakthroughs will make 2021 better than 2020 - The latest on the innovations that will let us go back to normal.

[Bill Gates reflects in his blog](#) “Still there are two main reasons to be hopeful. One is that masks, social distancing, and other interventions can slow the spread of the virus and save lives while vaccines are being rolled out. The other reason to be hopeful is that in the spring of 2021, the vaccines and treatments you’ve been reading about in the news will start reaching the scale where they’ll have a global impact. Although there will still need to be some restrictions (on big public gatherings, for example), the number of cases and deaths will start to go down a lot—at least in wealthy countries—and life will be much closer to normal than it is now.

COVID data by Suffolk local authorities - [Epidemiological data at lower-tier local authority \(LTLA\) level for England as at 23 December 2020.](#)

| Local Authority | Case rate per 100,00 population (weekly) | Trend | Case rate per 100,000 population aged 60 years and over (weekly) | Trend |
|-----------------|--|----------|--|----------|
| Mid Suffolk | 161 | Increase | 156 | Increase |
| West Suffolk | 154 | Increase | 90 | Increase |
| East Suffolk | 140 | Increase | 95 | Increase |
| Babergh | 201 | Increase | 148 | Increase |
| Ipswich | 228 | Increase | 191 | Decrease |
| England | 284 | Increase | 175 | Increase |

You can see the **R** number for UK for this week compared to the last four weeks below. An R number between 1.1 and 1.3 means that on average every 10 people infected will infect between 11 and 13 other people. East of England this week has a R number 1.2 to 1.5 with North West lowest with 0.9 to 1.1. Number of people with a lab-confirmed positive COVID-19 PCR test newly reported on 23rd December was 39,237 and on 18th December it was 28,507. Daily number of deaths within 28 days of positive tests reported on 23rd December was 744.



<https://www.gov.uk/guidance/the-r-number-in-the-uk> The epidemic is unfortunately growing with a growth rate between +1% and +6% means that the number of new infections is growing by between 1% and 6% every day.

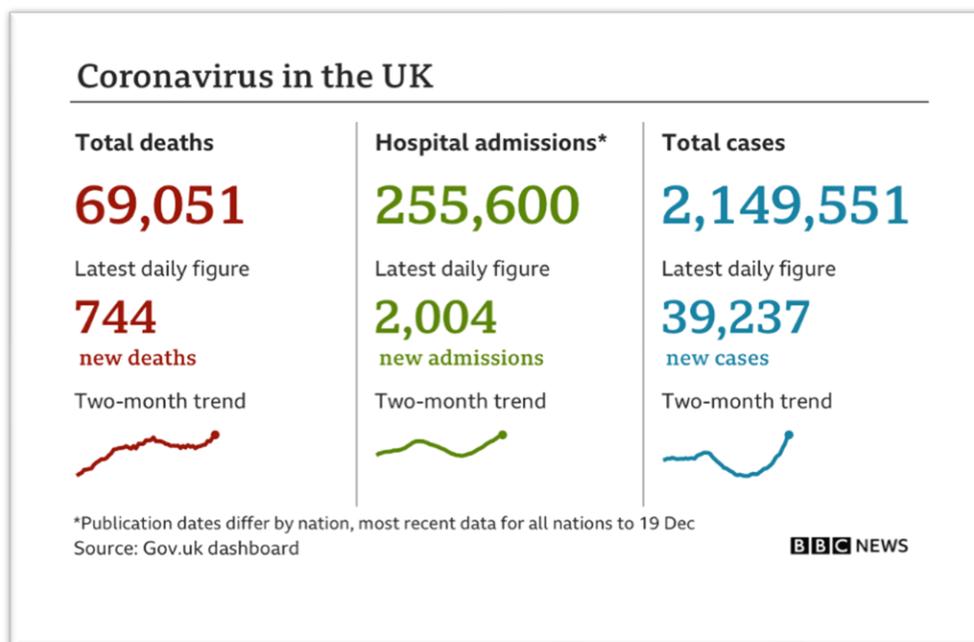
R number and growth rates across England:

Latest by NHS England regions

These are the latest R and growth rate estimates by NHS England regions.

| Region | R | Growth rate % per day |
|--------------------------|---------|-----------------------|
| England | 1.1-1.4 | +2 to +5 |
| East of England | 1.2-1.5 | +4 to +7 |
| London | 1.2-1.5 | +4 to +8 |
| Midlands | 1.0-1.2 | 0 to +3 |
| North East and Yorkshire | 0.9-1.1 | -2 to +2 |
| North West | 0.9-1.1 | 0 to +3 |
| South East | 1.2-1.4 | +4 to +7 |
| South West | 1.0-1.2 | +1 to +4 |

This [BBC Chart](#) sums up the current national COVID landscape clearly and succinctly. There is a downward trend both in those testing positive and hospital admissions.



Public Health Suffolk is publishing RADAR weekly. The content will summarise COVID-19 related research evidence, published in the previous week that is relevant to the Suffolk system and make

recommendations for consideration. The objective is to ensure that research evidence is rapidly disseminated and turned into local action. Our approach will be to include “need to know” research and not “nice to know”. We will not be including health care related research as there are other avenues to cover this and most NHS actions will be guided by the centre. Key sources of information include (but is not limited to) the following peer reviewed journals and websites:

- journals: [BMJ](#), [Lancet](#), [JAMA \(Journal of the American Medical Association\)](#), [New England Journal of Medicine](#)
- websites: [London School of Hygiene and Tropical Medicine](#), [Cambridge University \(COVID-19 Economic Research\)](#), [Johns Hopkins](#), [Imperial College London](#)

The findings are summarised below and themed by subject and topic area e.g. Adult and Community Services, Children and Young People, Public Health, etc. We would encourage readers to consider the evidence with colleagues within your teams. If there is agreement that this a priority and there are resources to implement the actions, Public Health Suffolk will work with you and support you in your efforts to get the relevant research into practice so that we can make a real difference collectively. Please send any research articles you want to be included in the COVID-19 RADAR to COVID-19@suffolk.gov.uk

Each article we include has also been given a grading level based on GRADE. This is an internationally recognised grading system used by the American Medical Association/ Cochrane for consistency in grading evidence. Articles are graded for Quality of Evidence and Strength of Recommendation, using the criteria below. This will aid in prioritising findings from the research for action.

Quality of evidence: definitions

1. **High quality**— Further research is very unlikely to change our confidence in the estimate of effect
2. **Moderate quality**— Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate
3. **Low quality**— Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate
4. **Very low quality**— Any estimate of effect is very uncertain

Strength of recommendations: definitions

1. **Strong**- When the desirable effects of an intervention clearly outweigh the undesirable effects, or clearly do not, guideline panels offer strong recommendations.
2. **Weak**: either because of low quality evidence or because evidence suggests that desirable and undesirable effects are closely balanced

I – Public Health

Topic Area: Household Transmission

[Household Transmission of SARS-CoV-2: A Systematic Review and Meta-analysis](#) | Zachary J. *et al.* , JAMA, December 14 2020

Quality of Evidence: **High**
Strong

Strength of Recommendation:

What was the study about? This meta-analysis and Systematic Review- of 54 Studies investigated the rate of household transmission for this SARS-CoV-2, compared this to other coronaviruses, and also examined which factors in the household itself pose a higher rate of transmission.

Objective: To examine evidence for household transmission of SARS-CoV-2, disaggregated by several covariates, and to compare it with other coronaviruses.

Location: Not specified

What were the key findings?

- Meta-analysis of 54 studies with 77 758 participants which all reported on household secondary transmission.
- The Household secondary attack rate was calculated by dividing the number of new infections among contacts, by the total number of contacts. Household contacts include anyone living in the same residence as the index case. Family contacts include the family members of index cases, including individuals who live outside the index case's household.
- Estimated household secondary attack rate was **16.4%** (95% CI, 13.4%-19.6%)
 - This is higher than secondary attack rates for SARS-CoV (**7.5%**; 95% CI, 4.8%-10.7%), and Middle East Respiratory syndrome coronavirus (**4.7%**; 95% CI, 0.9%-10.7%)
- Estimated family secondary attack rate was **17.4%** (95% CI, 12.7%-22.5%)
- Secondary attack rates for household and family contacts were more than 3 times higher than for close contacts (**4.8%**; 95% CI, 3.4%-6.5%)
- Household secondary attack rates were increased from:
 - **symptomatic index cases (18.0%**; 95% CI, 14.2%-22.1%) than from asymptomatic index cases (0.7%; 95% CI, 0%-4.9%)
 - **adult contacts (28.3%**; 95% CI, 20.2%-37.1%) than to child contacts (16.8%; 95% CI, 12.3%-21.7%)
 - **spouses (37.8%**; 95% CI, 25.8%-50.5%) than to other family contacts (17.8%; 95% CI, 11.7%-24.8%)
 - in **households with 1 contact (41.5%**; 95% CI, 31.7%-51.7%) than in households with 3 or more contacts (22.8%; 95% CI, 13.6%-33.5%)

Actions and issues from this study for local consideration?

- Households continue to be a significant venue for transmission of SARS-CoV2, especially as individuals with suspected or confirmed infections are advised to isolate at home. This study suggests symptomatic cases, adult contacts, spouses and households with 1 contact have higher rates of household transmission.
- Consider issuing extra precaution for these household members and advising of the extra risk they pose whilst isolating. Some suggestions which require future research are: mask-wearing at home, improved ventilation, voluntary isolation in external facilities and targeted antiviral prophylaxis.

Recommended action for: Local Outbreak Engagement Board, Health Protection Board, Public Health Suffolk, Colleagues in Communication

Topic Area: Prevalence

[Community prevalence of SARS-CoV-2 in England: Results from the ONS Coronavirus Infection Survey Pilot](#), K. Pouwels *et al.*, Lancet Public Health, vol. 0, no. 0, 10 Dec. 2020.

Quality of Evidence: **Moderate** **Strength of Recommendation: Strong**

What was the study about? Large (almost 300,000 individuals) ongoing longitudinal community survey of SARS-CoV-2 infection at national and regional levels.

Objective: To provide accurate and up-to-date information about the number of people testing positive for SARS-CoV-2 and risk factors for testing positive.

Location: England

What were the key findings?

- Samples were collected from individuals aged 2 years and older living in private households in England that were randomly selected from address lists and previous Office for National Statistics surveys in repeated cross-sectional household surveys with additional serial sampling and longitudinal follow-up.
- Participants completed a questionnaire and did nose and throat self-swabs.
- The percentage of individuals testing positive for SARS-CoV-2 RNA was estimated over time by use of dynamic multilevel regression and poststratification, to account for potential residual non-representativeness. Potential changes in risk factors for testing positive over time were also assessed.
- Between April 26 and Nov 1, results were available from 1,191,170 samples from 280,327 individuals; 5,231 samples were positive overall, from 3,923 individuals.
- The percentage of people testing positive for SARS-CoV-2 changed substantially over time, with an initial decrease between April 26 and June 28, from 0.40% to 0.06%, followed by low levels during July and August, before substantial increases at the end of August, with percentages testing positive above 1% from the end of October.
- Having a patient-facing role and working outside your home were important risk factors for testing positive for SARS-CoV-2 at the end of the first wave (April 26 to June 28, 2020), but not in the second wave (from the end of August to Nov 1).
- Age (young adults, particularly those aged 17–24 years) was an important initial driver of increased positivity rates in the second wave. For example, the estimated percentage of individuals testing positive was more than six times higher in those aged 17–24 years than in those aged 70 years or older at the end of September.
- There was no evidence that people working outside their home, working in patient-facing roles, or with hospital contact were driving initial increases after July and August.
- Non-white ethnicity was associated with greater SARS-CoV-2 positivity rates during the first wave but not the initial increases after July and August.
- A substantial proportion of infections were in individuals not reporting symptoms around their positive test (45–68%, dependent on calendar time).
- The low positivity for SARS-CoV-2 at the end of June (0.05%), indicates the specificity of the test used in the national UK programme is very high.
- Community supervised self-swabbing RT-PCR-based surveillance is achievable and practical.

Actions and issues from this study for local consideration?

Consider communication responses to address risk factors:

- Behaviour and contact patterns of subgroups change over time without intervention (e.g., students starting university).

- Adherence to non-mandatory infection prevention measures can reduce more over time among subgroups with a low risk of COVID-19-related hospital admission and death than among those who are more vulnerable.

Recommended action for: Local Outbreak Engagement Board, Health Protection Board, Public Health Suffolk, Colleagues in Communication

II All – Public Health, CYP, ACS

Topic Area: controlling transmission in England

[Report 41 - The 2020 SARS-CoV-2 epidemic in England: key epidemiological drivers and impact of interventions](#). Imperial College London, E. S. Knock *et al.*, London, 22 Dec. 2020.

Quality of Evidence: **Moderate** **Strength of Recommendation: Low**

What was the study about? A mathematical model of SARS-CoV-2 transmission to reproduce the first two waves of the epidemic across England’s seven NHS regions and assess the impact of interventions implemented by the UK government.

Objective: insights for controlling the epidemic in the future

Location: England

What were the key findings?

- The analysis synthesises multiple data sources and parametrically accounts for their biases, and provides a comprehensive overview of transmission, hospitalisation, and mortality patterns of SARSCoV-2 in the first and second waves (up to 2nd December) in all regions of England. Irrespective of initial differences, the level of transmission during the first lockdown was similar across all regions, consistent with mobility data showing movement during lockdown reduced to a consistent level nationally.
- A key feature in all regions is the burden suffered by older adults living in care homes, where mortality has been high.
- Among control measures implemented, only national lockdown brought the reproduction number below 1 consistently; introduced one week earlier it could have reduced first wave deaths from 36,700 to 15,700.
- In the second lockdown, population immunity helped to reduce transmission further below the critical threshold of $R_t^{eff} = 1$.
- Improved clinical care reduced the infection fatality ratio from 1.25% to 0.77%.
- Severity of COVID-19 increases with age, but for older patients and those with most severe illness, the benefit of ICU admission, ventilation and the corresponding prognosis may not be better than with oxygen therapy in a general ward.
- The infection fatality ratio was higher in the elderly residing in care homes (35.9%) than those residing in the community (10.4%).
- England is still far from herd immunity, with regional cumulative infection incidence to 1st December 2020 between 4.8% and 15.4% of the population.
- Estimates that reducing contact between the general population and care home residents by 50% could have reduced care home deaths by 44%.

Actions and issues from this study for local consideration?

- Emphasises “the importance of acting fast to save lives”.

- Any vaccination campaign will need to achieve high coverage and high levels of protection in vaccinated individuals to allow NPIs to be lifted without a resurgence of transmission.
- Vaccinating the most vulnerable age and risk groups will considerably reduce the burden of COVID-19, but a large proportion of younger age groups may also need to be vaccinated to reach the immunity threshold for control.
- High estimates of transmission in care homes imply that vaccine uptake there will need to be especially high, particularly if vaccine efficacy is lower amongst older age groups.

Recommended action for: Commissioners and providers of care services in Suffolk, Public Health Suffolk

Topic Area: COVID-19 and 'flu

Comment: [COVID-19 is not influenza](#), E. Petersen, Lancet Respiratory Medicine, vol. 0, no. 0, 17 Dec. 2020.

Original article: [Comparison of the characteristics, morbidity, and mortality of COVID-19 and seasonal influenza: a nationwide, population-based retrospective cohort study](#), L. Piroth et al., Lancet Respiratory Medicine, vol. 0, no. 0, 17 Dec. 2020.

Quality of Evidence: **Moderate** **Strength of Recommendation: Strong**

What was the study about? Comment on the results of a retrospective study using French data comparing 89,530 patients with COVID-19 admitted to hospital in March or April, 2020, with 45,819 patients with influenza admitted during the seasonal influenza outbreak between December, 2018, and February, 2019.

Objective: Comparisons of risk factors, clinical characteristics, and outcomes between patients hospitalised for COVID-19 and influenza were done, with data also stratified by age group.

Location: France

What were the key findings?

- The large sample size is an important strength of the study and it is assumed that the indication for hospital admission in the two periods was the same and thus does not bias the results.
- COVID-19 is more serious than seasonal influenza. In-hospital mortality was 16.9% for patients with COVID-19 and 5.8% for patients with influenza and thus the relative risk of death for COVID-19 was 2.9.
- Hospitalised patients with COVID-19 were more likely to develop respiratory distress, pulmonary embolism, and septic shock, but were less likely to develop myocardial infarction or atrial fibrillation.
- The median length of stay in the ICU for COVID-19 was twice as long as for influenza (15 days vs 8 days).
- The risk groups are those with common conditions, specifically diabetes, obesity, and hypertension, and older people.
- Patients with COVID-19 were more often obese or overweight, diabetic, hypertensive, and dyslipidaemic, whereas patients with influenza more often had chronic heart failure, peripheral vascular disease, chronic respiratory disease, cirrhosis, and deficiency anaemia.

- Among patients younger than 18 years, the rates of ICU admission were significantly higher for COVID-19 than influenza.
- In children, although the rate of hospitalisation for COVID-19 appears to be lower than for influenza, in-hospital mortality is higher; however, low patient numbers limit this finding.

Actions and issues from this study for local consideration?

- It is the responsibility of all of us to prevent spread of COVID-19.
- Physical distancing and the use of face masks is obligatory for all of us until we have a vaccine rolled out for major parts of the population.
- We should know that we can be infected and can spread the virus without having symptoms, and therefore the rules apply to all.
- Even if health-care workers and people older than 65 years are prioritised for the first rounds of immunisations, children and adolescents should also be offered the vaccine when it becomes available, given that young people can also become severely ill.

Recommended action for: Local and national policy makers, Health Protection Board

III-National Institute of Care Excellence (NICE) Guidelines COVID-19 guidance

NICE Implementation and Core Local Authority Guidance Review Group (NICER Suffolk) is a group led by Public Health Suffolk, which facilitates review and implementation of NICE guidance across Suffolk County Council. The group has temporarily suspended general NICER meetings and have replaced this in the interim with COVID-19 only NICER meetings to ensure implementation of new guidance by NICE on COVID-19 relevant to Suffolk County Council. Relevant guidelines are reviewed by the group and members from relevant Directorates will be taking these back to their colleagues to scope and incorporate into the ongoing COVID-19 work.

Newly released NICE guidelines this week that are relevant to SCC are listed below: No new guidance.

RADAR is an initiative by Public Health Suffolk

COVID-19 RADAR team – Editor and Lead - Dr P Badrinath, Consultant in Public Health Medicine and Director, Public Health Specialist COVID19 Centre, Nowreen Azim (Health & Care Programme Manager), Alison Matthew (senior JSNA researcher), Dr Sethu Mani-babu (GP trainee in Public Health). Dr Amelia Horne, Foundation Year 2 Doctor in Public Health

Please send your feedback & suggestions to PHSpecialistC19Centre@suffolk.gov.uk and or to the Editor & Lead p.badrinath@suffolk.gov.uk