Latest REACT-1 study shows SARS-CoV-2 infection rates rising in young people but remaining stable overall

Findings from the latest report of REACT-1, one of the country's largest studies into coronavirus (COVID-19) infections in England, have been published today by Imperial College London and Ipsos MORI.

Over 100,000 volunteers took part in the study in England between 9 and 27 September 2021 to examine the levels of COVID-19 in the general population. The latest data shows that prevalence of SARS-CoV-2 (the virus that causes COVID-19) in the population in England has increased to 0.83%.

Across the period of this round of the study, the report found that prevalence was stable or slightly rising across all age groups combined.

The main findings from the 14th round of the REACT-1 study were as follows.

The report found 764 positives from 100,527 swabs giving a weighted prevalence of 0.83%.

However, there was some variation between age groups. Prevalence was growing in those aged 17 years and below with an R number of 1.18, while prevalence was decreasing in those aged 18 to 54 years with an R number of 0.81.

At the regional level, prevalence ranged from 0.57% in the South East to 1.25% in Yorkshire and The Humber. There was evidence of growth in both East Midlands and London with R of 1.36 and 1.59 respectively.

In people of Black ethnicity, prevalence was higher at 1.41% compared with white participants at 0.78%.

Prevalence was higher among larger compared with smaller households, ranging from 0.33% for single-person households to 1.75% for households with 6 or more persons.

Among households with one or more children, prevalence was also higher at 1.37% compared with 0.40% in households without children.

In those reporting 2 doses of vaccine, prevalence was 0.56% compared with 1.73% in unvaccinated people.

Among people who were in contact with a confirmed COVID-19 case, prevalence was 7.35% compared with 0.43% among those without such contact.

Across rounds 13 and 14 of the REACT-1 study, analysis of weighted prevalence by time since receiving second dose of vaccine indicated higher prevalence at 0.55% (0.50%, 0.61%) for those who received their second dose 3 to 6 months before their swab compared to 0.35% (0.31%, 0.40%) for those whose second

dose was within 3 months. Prevalence rates were uncertain for those whose second dose was more than 6 months previously.

However, prevalence was higher for unvaccinated individuals, at 1.73% (1.60%, 1.95%), than for participants who had received either one or 2 doses of vaccine.

The study also examined vaccine effectiveness against infection, comparing those who have received 2 doses of a vaccine against those who are unvaccinated. For all participants and all vaccines combined, vaccine effectiveness against infection was estimated to be 62.8% when adjusted for round, age, sex, index of multiple deprivation, region and ethnicity. Among the subset of participants reporting symptoms, vaccine effectiveness was 66.4% overall.

This is in line with estimates by the UK Health Security Agency (UKHSA) that after 2 doses, vaccine effectiveness against symptomatic disease with the Delta variant is approximately 65 to 70% with AstraZeneca and 80 to 95% with Pfizer-BioNTech.

UKHSA estimates that the vaccination programme in England has prevented hundreds of thousands of hospitalisations and deaths. The vaccination programme has also been successful in weakening the link between infection, hospitalisation and deaths.

Today’s data demonstrates the need to remain vigilant and follow government guidance to receive both doses of vaccine when you are eligible and follow good public health behaviours to minimise spread of infection, to ensure that we continue to reduce the risk.

Dr Jenny Harries, Chief Executive of UKHSA, said:

> This data demonstrates that while our vaccination programme continues to make a huge difference, the pandemic is not over. As we move towards winter, it is as important as ever that we continue to act responsibly in order to avoid transmission.
>
> While cases remain high, the vaccination programme is ensuring that this does not translate to a similarly high number of hospitalisations and deaths. We are urging everyone who is eligible to come forward for vaccination. It is the best way to reduce transmission and protect ourselves and those we love.

Health and Social Care Secretary Sajid Javid said:

> The phenomenal progress of our vaccination programme has built a strong wall of defence across the country, allowing us to live safely with this virus.
>
> These findings show how important it is for young people to get the

> jab to protect them from COVID-19, and for those eligible to get their booster vaccine to prolong their existing protection.
>
> I urge anyone who needs one to get a jab as soon as possible – it's vital to keep you and your family safe this winter.

Professor Paul Elliott, director of the REACT programme from Imperial's School of Public Health, said:

> Our latest data shows that infections are high and rising in school-aged children. Households with children also had a higher prevalence of infection, suggesting that children may be passing on the virus to those that they live with. These trends reinforce how important it is for children aged 12 and above to get vaccinated and help curb the spread of infection, and minimise disruption to education.

Kelly Beaver, Managing Director, Public Affairs at Ipsos MORI said:

> While the rise since our last REACT-1 round in prevalence is concerning, it is encouraging that there has not been a commensurate rise in hospitalisations and deaths from COVID-19. The R number for under-18s is particularly encouraging, allowing children to spend more time in school learning.
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> Ipsos MORI is incredibly grateful to all those who have taken part in the REACT studies since April last year who have played a vital role in helping the government understand the virus and how it has spread.

This report is the latest from the REACT-1 study which was commissioned by the Department of Health and Social Care (DHSC) and carried out by a world-class team of scientists, clinicians and researchers at Imperial College London, Imperial College Healthcare NHS Trust and Ipsos MORI.

Robust population surveillance studies like this are essential to understanding the rate of COVID-19 infection, how the virus is spreading across the country and the impact of measures taken to contain the virus in order to inform current and future actions.