Cabinet Office
Directorate General for Analysis, C19 Taskforce

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Spotlight: Long COVID

28 February 2022

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Long COVID is a complex condition with numerous symptoms / clusters of symptoms and differing degrees of severity involved. Lack of international consensus on the definition continues to hamper efforts to firmly estimate prevalence. Recent studies have reported longer-term risks post infection including impairment across multiple organs and significantly increased risk of cardiovascular disease even for milder non-hospitalised cases. COVID-19 vaccination may reduce the risk of developing Long COVID symptoms.

- There is as yet no **single, internationally agreed definition** of Long COVID (LC) making prevalence difficult to determine and study comparisons problematic (see Figure 1). LC is often not a static illness with common relapses and new symptoms manifesting in response to specific triggers.[1]

- Latest ONS estimates suggest 1.3m people in private households in the UK (2.1% of the population) were suffering with LC symptoms (4+ weeks post infection) as of 2 January 2022. 71% of those self-reporting LC symptoms were infected at least 12 weeks previously and 42% had COVID-19 at least a year previously. 63% reported that their symptoms adversely affected day-to-day activities. Fatigue continues to be the most common symptom reported by those with prior COVID-19 infection (50%), followed by shortness of breath (37%), loss of smell (37%), and loss of taste (28%).[2]

- Long COVID is a **multi-system disease**, with people experiencing individual symptoms or varying clusters of symptoms to differing degrees, and impairment across multiple organs.[1] A meta-analysis of 43 studies found that almost 1 in 5 individuals exhibited cognitive impairment 12 or more weeks following COVID-19.[3] A recent study showed an increased risk of cardiovascular disease after COVID-19 infection.[4] COVID-19 infection has also been associated with increased likelihood (between 31% to 166% across different databases used) of new diabetes diagnoses in <18 year olds [5], and increased risk of mental health disorders.[6]

- Preliminary findings of two recent studies (CLoCk and Convalescence[7]) demonstrate symptoms associated with LC such as fatigue are also widespread in control populations. In the CloCk study, 53.3% of those who tested negative presented with symptoms associated with LC three months after testing (compared to 66.5% of those who tested positive).[8] However, those with prior infection reported higher prevalence of multiple symptoms (16.2% of controls and 30.3% with prior infection). In both studies, symptoms identified irrespective of COVID-19 infection were most common amongst women and people with pre-existing mental health and/or physical health issues. [9]

- There is growing evidence that **vaccination** can r**educe risks of developing LC symptoms.**[10] Receiving two doses at least two weeks before COVID-19 infection was associated with a 41.1% decrease in odds of reporting LC.[11] There is also some evidence that unvaccinated people with LC who were **subsequently vaccinated** have reported fewer long COVID symptoms than those who remained unvaccinated.[10]

Comment: Post COVID assessment services have opened across the country, offering a holistic, multi-faceted approach to assessing and supporting individuals; however, access to support is disproportionate across the population.[12] *Treatment options for Long COVID remain unclear and the subject of current research.*

Figure 1: Range of prevalence estimated by duration.

Source: NIHR second review[1]

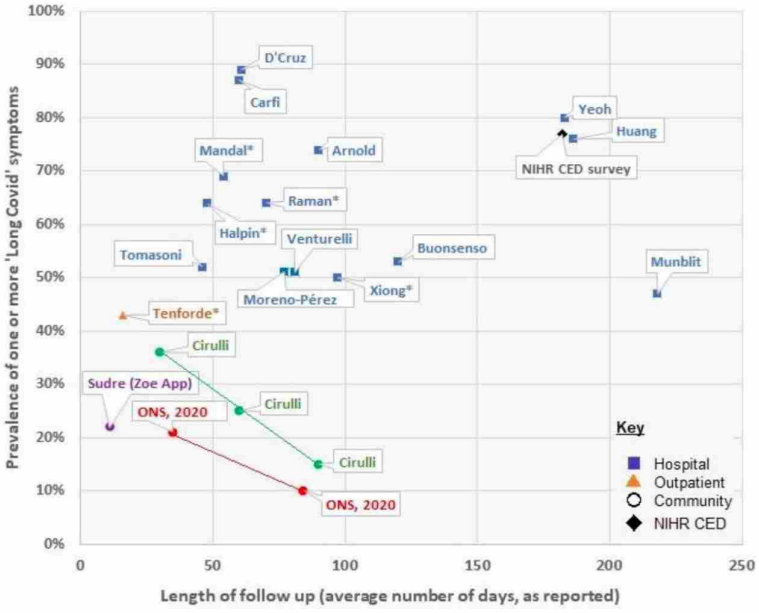
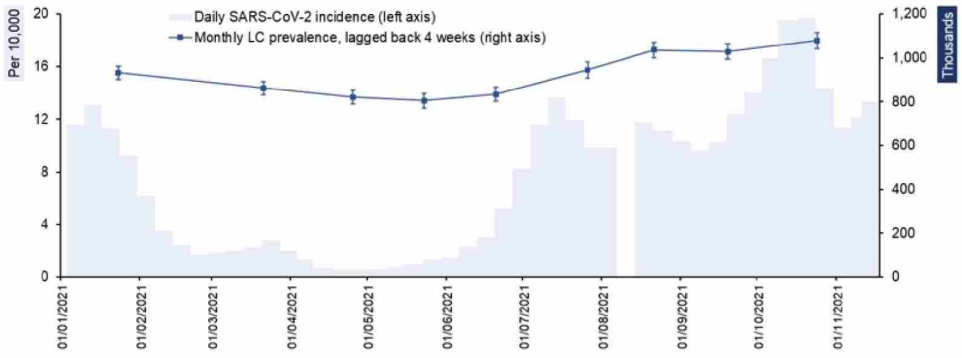


Figure 2: Long COVID prevalence (lagged back 4 weeks) and Covid-19 incidence over time (England only).

Source: Daniel Ayoubkhani, ONS prevalence of ongoing symptoms following Covid-19 infection in the UK: 6 January 2022



Commented [TA1]: It would be better to specify England. People could interpret the country to mean the UK, but not all DAs have clinics in place

Commented [TA2]: I think this is too strongly put. There are variations in access between regions, and the reasons for those variances differ.

Commented [TA3]: Suggest you clarify that figure 1 is symptom prevalence and figure 2 is population prevalence estimate?

References

[1]National Institute for Health Research (NIHR), Living with Long Covid- themed review [Update 2], 16 March 2021.

[2]ONS, Updated estimates of the prevalence of Long COVID symptoms, 3 February 2022.

[3] Ceban et al., Fatigue and cognitive impairment in Post-COVID-19 Syndrome: A systematic review and meta-analysis, Brain, Behaviour and Immunity, 29 December 2021.

[4] Xie et al., Long-term cardiovascular outcomes of COVID-19, Nature Medicine, 7 February 2022.

[5] Barret et al., risk for newly diagnosed diabetes >30 days after SARS-CoV-2 infection among persons aged <18 years, CDC, 7 January 2022.

[6] XIe, Xu and Al-Aly, RIsk of mental health outcomes in people with Covid-19: cohort study, BMJ, 16 February 2022.

[7] Nishi Chaturvedi and Jonathan Sterne, Convalescence study, preliminary findings, February 2022, unpublished.

[8]Stephenson et al. Physical and mental health 3 months after SARS-CoV-2 infection (long COVID) among adolescents in England (CLoCk): a national matched cohort study, February 2022.

[9] Thompson et al., risk factors for Long COVID: analyses of 10 longitudinal studies and electronic health records in the UK. 10 July 2021.

[10]UK Health Security Agency, The effect of vaccination on Long Covid, February 2022. Published online on UKHSA library.

[11] ONS, Self-reported long COVID after two doses of a COVID-19 vaccine in the UK, 26 January 2022.

[12] NHS England and NHS Improvement, Long COVID: the NHS plan for 2021/22, June 2021.

Confidence Statement

Overall there is medium-high confidence in the evidence used in this assessment. The evidence discussed comes from trusted sources and high-quality studies, although the lack of consensus on definition restricts effort to estimate exact prevalence of the disease.	**Medium-high**

Probabilistic language

Analytical Quality Stamp (pilot)

What is Analytical Quality Stamp (AQS)? *AQS will act as a shorthand to guide users on the appropriate use of an analytical product by indicating the level of quality assurance that the product has been through (DGA are currently running a 2 month AQS pilot, ending in December). For queries about AQS, please contact michael.james@cabinetoffice.gov.uk*

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