OPEN LETTER

Why the Patient-Made Term 'Long Covid' is needed [version 1; peer review: awaiting peer review]

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Abstract

The patient-made term 'Long Covid' is, we argue, a helpful and capacious term that is needed to address key medical, epidemiological and socio-political challenges posed by diverse symptoms persisting beyond four weeks after symptom onset suggestive of coronavirus disease 2019 (COVID-19). An international movement of patients (which includes all six authors) brought the persistence and heterogeneity of long-term symptoms to widespread visibility. The same grassroots movement introduced the term 'Long Covid' (and the cognate term 'long-haulers') to intervene in relation to widespread assumptions about disease severity and duration. Persistent symptoms following severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection are now one of the most pressing clinical and public health phenomena to address: their cause(s) is/are unknown, their effects can be debilitating, and the percentage of patients affected is unclear, though likely significant. The term 'Long Covid' is now used in scientific literature, the media, and in interactions with the WHO. Uncertainty regarding its value and meaning, however, remains. In this Open Letter, we explain the advantages of the term 'Long Covid' and bring clarity to some pressing issues of use and definition. We also point to the importance of centring patient experience and expertise in relation to 'Long Covid' research, as well as the provision of care and rehabilitation.

Keywords

COVID-19, Long Covid, naming of diseases, patient advocacy, patient movements, patient-led research, SARS-CoV-2, symptoms

Open Peer Review

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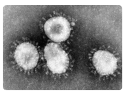
Any reports and responses or comments on the article can be found at the end of the article.



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Introduction

This Open Letter aims to contribute to multi-stakeholder discussions over how to conceptualize and respond to symptoms that persist several weeks after symptom onset suggestive of coronavirus disease 2019 (COVID-19). As authors, we all experience such symptoms and have contributed to international patient advocacy in relation to the acknowledgement and conceptualization of such symptoms. We also bring interdisciplinary expertise from the humanities, interpretive social sciences, arts, medicine and public health, science policy, patient involvement, and ethics in research. The Open Letter explains why we believe that the patient-made term 'Long Covid' is a helpful and capacious term that is needed to address key medical, epidemiological and socio-political challenges posed by long-term symptoms. Persistent symptoms following severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection are now one of the most pressing clinical and public health phenomena to address: their cause(s) is/are unknown, their effects can be debilitating, and the percentage of patients affected is unclear, though likely significant. The term 'Long Covid' has now been taken up in scientific literature, the media, and in clinical, policy, and governmental spaces. Uncertainty regarding its value and meaning, however, remains. In this Open Letter, we explain the advantages of the term 'Long Covid' and bring clarity to some pressing issues of use and definition.

What is 'Long Covid'?

'Long Covid' is a patient-made term that, in the absence of formally agreed definitions, we use here to describe diverse symptoms persisting beyond four weeks after symptom onset suggestive of COVID-19. Many patients who have remained ill for months initiated support groups and grassroots campaigns to bring the condition to visibility[1–3]. 'Long Covid' (and cognate 'long-haul Covid') now appears in journals[4,5], and has been used by clinical and governmental actors and WHO meetings[6–8]. Doubts and imprecision about its meaning remain, however, and an epidemiological definition is needed. For this, two other definitions must be established: a clinical case definition of COVID-19, which does not solely rely on laboratory confirmation; and a sophisticated definition for recovery that accounts for relapsing illness[9,10]. Once those definitions are in place, quantifying 'Long Covid' by excluding what it is not, 'Long Covid' remains a capacious and powerful term – one that has passed from patients to use by the WHO in under three months.

'Long Covid' was first used by Perego[11] as a contraction of long-term Covid illness to engage with her experience of a cyclical, multiphasic, and multi-system condition extending – temporally and clinically – beyond a biphasic pathway identified, for example, by Lescure *et al.*[12]. The cognate term 'long haulers' was independently established by Watson for the support group she founded[13], and brought to wide attention by Yong[14]. Exchanges amongst patients, as well as print and broadcast journalism, have been central in consolidating both terms. Patient-led surveys made visible the diversity and persistence of symptoms[15]; these findings are now being replicated in peer-reviewed journals[16,17]. Scientists do not yet know what causes long-term symptoms[18] and incidence remains uncertain: case studies indicate 10–87% present persistent symptoms or fail to return to their health baseline three weeks after onset[16,17,19]. These figures, however, derive from heterogeneous study designs and samples.

We argue here that 'Long Covid', as an open and malleable term, has many advantages for describing persistent symptoms and/or sequelae of infection, as well as for navigating the dramatic scientific and socio-political challenges posed by the pandemic. In addition to itemizing these advantages below, we point to important considerations we believe should be kept in mind when conceptualizing and defining 'Long Covid'.

Composite and multi-dimensional

'Long Covid' points to vastly variable clinical manifestations. It may incorporate several conditions with different aetiologies and more than one mechanism, even in the same patient. Effects in multiple organs have been documented[20,21]. Ongoing fatigue appears common[22–24]. While waiting for further research, 'Long Covid' may, mechanistically, include patients with symptoms variously deriving from direct viral damage, immune response damage, opportunistic bacterial infections, and post-viral/post-sepsis symptoms[25–27]. Additional post-traumatic and mental health symptoms might interact with physiological symptoms in complex ways[28,29]. 'Long Covid' accounts for the possibility of persistent viral infection with low levels of viral shedding; protracted immune reaction; latency; or the presence of virus in reservoir organs or tissues[27,30]. SARS-CoV-2 also appears to be able to reinfect[31], and to have the potential to precipitate new disease[32–34].

'Long Covid' patients require prompt, multidimensional diagnostic investigations and treatment – not least to rule out potentially life-threatening developments[5]. Those who were not hospitalized, and those who were not tested or have negative PCR/antibody tests, must be able to access diagnostic and therapeutic services[5]. Trauma and psychological symptoms are reported in both hospitalized and non-hospitalized survivors and need to be addressed sensitively[28]. Differential diagnosis that does not reduce 'Long Covid' to psychological symptoms is crucial. We urge researchers and clinicians to tread a careful line which: (i) does not assume that symptoms are caused by anxiety; (ii) acknowledges that COVID-19 is frequently a traumatic experience; (iii) considers many potential mechanisms in explaining mental health symptoms – including inflammatory responses and neurological damage[21,28,35].

Disease severity

'Long Covid' intervenes in early classifications of COVID-19 as mild, severe, and critical, built on reports from Wuhan[36,37].

COVID-19 was initially assumed to be a respiratory disease: classification was based around pneumonia severity and respiratory and/or multiple organ failure. It has become clear this categorisation does not do justice to heterogeneous disease trajectories. COVID-19is now primarily characterized as a multi-systemic disease: mild manifestations in the prodromal stage can progress to severe disease[12] and sequelae, including cardiovascular, thrombotic, and neurological manifestations[26,38]. Interstitial COVID-19 pneumonia can be asymptomatic/pauci-symptomatic, challenging any easy adjudication of severity[39]. Heterogeneous disease pathways and comorbidities – particularly those rendering people vulnerable, e.g. dementias – are likely to make it harder to parse 'Long Covid' symptoms. Aberrant immune response might be involved in persistent symptoms and additional organ damage[27]. By deconstructing the current mild vs severe dichotomy, 'Long Covid' underlines that hospitalization is an imperfect indicator of severity, even if has been used as such in studies. Criteria for admission varied from country to country, and within countries, and there are indications from hotspots that severely ill patients were not hospitalized[40,41]. To rely on hospitalization as a demarcation of severity creates skewed samples[9], including poor representation of younger/paediatric patients[42,43]. In any case, persistent symptoms impairing an individual's usual function and quality of life should not be called 'mild'[9,37].

Other clinical arenas indicate the difficulty of assessing whether severity criteria should be based on risk of death, symptomatology, extent of impairment, or symptoms longevity[44]. 'Long Covid' insists that definitional resolutions need to include the perspective and published records of multiple patients with different temporal and clinical pathways. This has significant implications both for the way that individuals are medically treated and cared for, and how risk of infection is approached at a population level.

Nature and duration of disease

While we provisionally define 'Long Covid' patients as those who have not recovered within four weeks from symptom onset, the point at which COVID-19 moves out of its acute phase remains unclear, and may vary in different patients[12,26,45]. Duration and final outcomes of, and recovery from, 'Long Covid' are also unclear. Further research needs to address the complex host-pathogen interaction[46]. While similarities between some 'Long Covid' symptoms and symptoms from conditions such as Myalgic encephalomyelitis/chronic fatigue syndrome (ME/CFS) and dysautonomia need to be investigated[47,48], there is a risk of prematurely framing studies of 'Long Covid' through other diseases. This might downplay emerging phenomena specifically linked to COVID-19 – such as the range of SARS-CoV-2 action via ACE2 receptors widespread in the body, and the temporally and spatially complex immune response to the virus – thereby missing thresholds for early intervention[25,45].

'Long Covid', through assuming agnosticism in relation to an as yet not understood disease course, side-steps the problems of 'post-' (e.g. 'post-Covid syndrome', 'post-acute') and 'chronic'. It advocates instead for a nuanced and personalized approach to each patient – including monitoring and intervention both early in the infection and as a follow-up[5,45].

Prevention and morbidity

We need to adequately assess both morbidity and mortality in 'Long Covid' cohorts – including in those who were not tested at the time of infection or via effective serology screening, since testing is not exempt from pitfalls[30]. The personal, economic and social costs of 'Long Covid' are unfathomable. They include screening; medical, rehabilitative and social care; and meeting costs associated with long-term disability, including lost productivity[49]. Research indicating sequelae, even in asymptomatic/pauci-symptomatic cases, suggests screening and treatment may be needed for millions. The impact on already marginalised/minoritised communities will be particularly profound. 'Long Covid' calls for greater specificity in measuring 'symptom duration, fluctuation, overall functionality and quality of life in comparison to before infection'[50]. Understanding 'Long Covid' is also crucial for prevention, and will help determine pandemic control policies.

Centring patients

'Long Covid' was made by grassroots, international movements of people experiencing a new disease. Patients, many of them undergoing traumatic experiences in dramatic circumstances, engaged in self-reflection and observation, collective support, advocacy and activism. Many are closely involved in and engaging with fast-moving scientific literature; some are themselves clinicians and/or researchers[9,37,50–52].

Patients should be involved in the commissioning of research and clinical services. Many bring relevant expertise and some convene/own patient-led archives hosting extensive clinical data.

'Long Covid' demands that medical professionals, the media and the wider community are sensitive to the trauma experienced by patients[53]. Some were left untended, to die at home; many were misunderstood or had their symptoms reduced to anxiety[54]. Some have been caring for ill – or dying – family and friends, and many have lost jobs or are under threat of losing their livelihoods, medical insurance or visa status. Patients' datasets of symptoms, and potential therapeutics, carry risks of exploitation. Rapid gathering of DNA and other data from 'Long Covid' groups poses significant ethical challenges, including the use of sensitive information shared on different media to raise awareness in an unprecedented crisis.

Disability-inclusive

'Long Covid' is explicitly disability-inclusive. Many who made 'Long Covid' – including some of us authors – have experienced disability, suffered discriminatory healthcare practices, and draw on models developed within disability activism/research[55,56]. 'Long Covid' also acknowledges the experiences of those who were healthy, or did not identify themselves as disabled/chronically ill, before infection. 'Long Covid' insists that long-term symptoms, disability, and rehabilitation

are complex phenomena extending beyond questions of biology and physiology. They are entrenched unevenly within the socio-environmental milieu of communities[57–60].

The perils of pandemic medicine

'Long Covid', with its aetiological openness, recognizes the risks inherent to emergency medicine. These include: speculative therapies; inadequate care risking persistent/permanent damage; over-hasty diagnosis and diagnostic lumping – particularly in the context of trauma in clinicians and patients; lack of access to testing and diagnostic tools; and stigma. When in-depth testing evaluating biological markers is not available, or when such tests do not explain symptoms or the exact duration of viral persistence, the risk of misdiagnosis remains high.

'Long Covid' acknowledges the potential for persistent illness to be caught up in political and medical misunderstandings and exploitation. The definition and treatment of complex phenomena ('Long Covid') that emerge in relation to an equally complex, currently not well understood disease (COVID-19), itself of contingent definition, are full of danger. We do not currently know whether all 'Long Covid' patients are indeed 'post-viral'.

Anthony Fauci has stated that a COVID-19 'post-viral syndrome' is 'strikingly similar to myalgic encephalomyelitis/chronic fatigue syndrome'[61]. While we acknowledge the importance of investigating comparisons with other diagnostic entities, we argue however against enfolding 'Long Covid' within other diagnoses. We need a label distinct from other phenomena related to earlier viral and other exposures (e.g. ME/CFS). We also question the term 'Post-Covid Syndrome': we believe it carries not only risks of misdiagnoses and mismanagement, but also of leaving those with persistent illness behind, especially in a post-vaccine world.

Conclusion

The term 'Long Covid' emphasizes the only aspect of illness comprising persistent symptoms about which there is currently certainty: illness is long in relation to the prevalent early public message of two weeks of illness in mild COVID-19 cases[36,62]. The simplicity and strength of 'Long Covid' as a term helps the fight for fair recognition on a global scale, and calls for care, equity, compassion, and collective action – involving prominent actors, stakeholders, and activists. It is founded on demands for a nuanced, patient-focused approach – one incorporating wide-ranging investigations of potential post-viral conditions but, crucially, recognizing the pathogenesis of SARS-CoV-2 as specific in its own right. We need to avoid the severity or prevalence of 'Long Covid' being downplayed – whether for political purposes, privileging the claims that the economy is at odds with reducing levels of infection, or for fear of inadequately resourced healthcare systems[37]. We need to ensure the public knows about the potential 'Long Covid' consequences of infection when they are balancing the risks of exposure to SARS-CoV-2.

In coming months, it is possible some clinical sub-disciplines or research groups, might be favoured – especially if specific medical/legal definitions for those with long-term symptoms are imposed or achieved. Which patients might be left out? How will funds be allocated for research and treatment? Who will qualify for disability benefits/sick pay? How can we ensure that evidence about variation in patients is not disregarded and exacerbates inequalities?

'Long Covid' calls for collective responses to such questions, in which the expertise of 'Long Covid' patients is recognised within multi-disciplinary teams of researchers, stakeholders and care providers. Extensive involvement of 'Long Covid' patients has the best chance of ensuring that conceptualization, investigation and treatment of 'Long Covid' are attentive to the cultures, health systems, and discriminatory societies where patients live[35,60]. 'Long Covid' must not be understood as the outcome of biological processes alone.

Data availability

Underlying data

No data are associated with this article.

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