

BRIEFING NOTE

Impacts of long COVID on health systems and NCD care

This briefing note is for policymakers and provides key messages on Long-COVID based on data available as of April 2021. The NCD Alliance acknowledges that the evidence base for long COVID is still rapidly developing and intends this briefing note to be a living document to be updated as necessary. Please see [NCD Alliance's resource page](#) for more updates on noncommunicable diseases and COVID-19.

The COVID-19 pandemic and noncommunicable diseases (NCDs) have resulted in a deadly interplay, with people living with NCDs being at higher risk of severe illness and death from COVID-19. (1) It is estimated that almost a quarter of the global population lives with at least one NCD, which puts them at higher risk from the coronavirus. (2) COVID-19 and NCDs have reinforced one another's impact, leading to them being identified as a "syndemic" that disproportionately impacts the poorest communities around the world and exacerbates health inequalities in every country. (3) The impact of COVID-19 on people living with NCDs is further discussed in NCD Alliance's previous COVID-19 [briefing note](#).

COVID-19 and its devastating impact will persist over the longer term. There is mounting evidence that many people who have experienced COVID-19 are left with chronic, multi-organ symptoms, which is informally known as long COVID or post-acute COVID-19 syndrome. (4), (5) Initial studies show that up to 70% of people affected by COVID-19 experience some reduced organ function four months after the onset of their acute symptoms. (6)

The emergence of long COVID has important implications for people living with or at risk of NCDs, in addition to the direct impacts of the pandemic on people living with NCDs which include the acute illness and disruptions of essential NCD care. Emerging evidence suggests that long COVID is a chronic condition.

For the purposes of this briefing note, long COVID is defined as "a cluster of signs and symptoms that develop during or following an infection consistent with severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2), which continue for more than 12 weeks and are not explained by an alternative diagnosis". (7)(8) It is also labelled as "chronic COVID-19", and "post-acute COVID-19 syndrome", and the people affected are described informally as "long haulers".(9)(10)(11)

Key messages

KEY MESSAGE 1

Long COVID will significantly increase demand for NCD care

- Although long COVID appears to be more common in older people, it can affect people of all ages, including young people without previous health conditions. In rare cases, children have also been reported to be affected. (6) The severity of acute COVID-19 does not appear to be a predictor of long COVID, which has been reported among individuals who experienced only a mild acute illness as well as more severe cases. (8) However, health status prior to acute COVID-19, including the presence of co-morbidities and living with obesity, as well as being female, appear to be linked to the development of long COVID. (12)
- Long term conditions following a previous severe illness are not uncommon. There is also evidence of persistent symptoms in some survivors of previous coronavirus infections, including the SARS epidemic (2003) and the Middle East respiratory syndrome (MERS) (2012). (5) Due to the global prevalence of the COVID-19 pandemic, long COVID may be appreciably more common and appears to affect a broader number of organs, leading to a significant impairment in their functions in some cases. (6)
- The symptoms of long COVID are similar to the manifestations of several NCDs, including diabetes, cardiovascular disease, chronic respiratory conditions, and mental health and neurological conditions. Common signs and symptoms of long COVID include generalized pain, fatigue, shortness of breath, chest pain, muscle aches, palpitations, persisting high temperature, and cognitive dysfunction, indicating a reduction in the functional capacity of the heart, lungs, and brain. There is also evidence of mild impairment in the function of the kidneys, liver, pancreas, spleen, adrenal glands, and gastrointestinal tract. (6) Evidence is still emerging on the duration of these effects. Additional less common but persistent symptoms have also been reported, highlighting the possibility of adverse multisystem effects. (13) Symptoms can occur individually or as clusters and over a transient or sustained period, and appear to be a result of (multi-) organ damage from the initial infection, profound or excessive inflammation, continuous viral activity, and/or abnormal immune system response. (14)(15)(16)
- As a result, Long-COVID is likely to increase the number of people requiring NCD care and alter the healthcare needs of people already living with NCDs. As governments are called on to build back fairer, and reposition health systems to better protect populations, long COVID and its implications for health systems must be prioritised in pandemic recovery and response policies.

KEY MESSAGE 2

People living with NCDs who contract COVID-19 require specific follow-up and care

- For people already living with NCDs, particularly diabetes, hypertension, cancers and chronic respiratory conditions, any reduction in the capacity of the kidneys, lungs, pancreas, and heart is a significant risk. Management of these individuals will require care and rehabilitation from a multidisciplinary team, drawing on expertise from several clinical specialties, based on a clear, evidence-based treatment pathway. (14)(17)
- Many health systems were already struggling before the pandemic to provide preventive, care, and rehabilitation services, for people living with or at risk of NCDs. Some specialist care services are particularly underfunded and understaffed, especially in low- and middle-income countries (LMICs), with persistent gaps in neurology, renal services, mental health, and psychosocial support. (18) (19) Addressing these gaps has implications for health systems' human and financial resources, both of which will need to be mobilised rapidly to meet the needs of all people living with NCDs, including post-COVID conditions.

KEY MESSAGE 3

Governments must include long COVID needs into health systems' planning, budgets, and resource allocations

- Estimates currently suggest that at least one in every 10 acute COVID-19 survivors will experience long COVID. (14) The burden of long COVID is therefore anticipated to be in the millions, based on the **current scale of the pandemic**. On this scale, Long-COVID will have broad societal implications, particularly for health systems, and already constitutes a challenge to those living with the condition, care providers and health systems that are currently buckling under the weight of a prolonged pandemic. (20)

One European study reported that three months after the onset of acute COVID-19, one-third of non-hospitalized patients were to some degree still dependent on others for personal care. (21) (23)

- In September 2020, WHO introduced post-COVID emergency use codes in the International Classification of Disease to support the definition and data gathering of long COVID. (6) Although most countries document positive diagnoses, deaths, hospital admissions and intensive care admissions for acute COVID-19 cases, as of February 2021 and despite calls by WHO, there were no country-level surveillance systems for long COVID. (6) Knowing the proportion of a population living with long COVID, including those who have neither been hospitalized nor tested for acute COVID-19,

is critical for governments to develop meaningful policy responses and provide adequate support and care. (10) (22)

- Governments will need to anticipate a rise in the number of people living with chronic conditions, including NCDs and people living with co-morbidities, and make proper provisions to meet their needs for both acute and chronic care at the primary, secondary, and tertiary levels. This should include integrated approaches to planning and investments for the delivery of both acute and chronic care. This is particularly important to ensure at-risk groups are not left behind, further widening health inequalities.
- Resources for NCD care and control were already insufficient before the COVID-19 pandemic. In countries where UHC has not yet been achieved, there is a high risk of catastrophic health expenditure for people living with NCDs, with a major impact on families and communities, and on economic development. (20)(21)(23)(24) As governments seek to strengthen health systems and to ensure a rapid recovery and future preparedness for health threats, it will be essential to gain a better understanding of the demand for NCD care, underpinned by accurate, timely data. This is essential – not only for Ministries of Health, but also for Finance Ministries and national leaders – to understand and prepare for the evolving demands on health systems.

KEY MESSAGE 4

Meaningfully engage people living with long COVID in policy and service delivery

- Critical knowledge gaps remain for long COVID that have significant implications for public health and sustainable development. Regrettably, many people experiencing long COVID early in the pandemic faced dismissive responses from healthcare professionals. People living with long COVID have reported feeling stigmatized and have experienced difficulties in accessing and navigating essential services, due to a lack of awareness among healthcare providers. Those who have been able to access services have experienced fragmented care. (6)(13)(14)
- As a result, many people who describe themselves as 'long haulers' have become advocates for lived experiences of long COVID, collating their personal expertise, raising awareness of the condition and calling for policy change. People living with long

COVID have articulated key asks in relation to "Recognition, Research and Rehabilitation." (6)

- People living with long COVID should be engaged in policy development, research and design and consulted on their needs for rehabilitation programmes. In adapting health systems to the impacts of COVID and preparing for the future, the active involvement of people with lived experience is essential to increase understanding, build demand for action, ensure that responses correspond to people's needs and create accountability. There is strong evidence from across several communities, including HIV/AIDS, TB and disability, that inclusion of affected communities is beneficial to health outcomes, by ensuring that policies and programmes are designed to be relevant, appropriate and sustainable. (25)

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