Queensland Health

Inquiry into Long COVID and Repeated COVID Infections

Submission to Parliamentary Committee

Queensland Government

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Summary

Post-COVID condition – generally known as long COVID – is frequently reported to have a high prevalence and significant impact on individuals and health systems. However, these reports have not aligned to Queensland Health's experience and observations.

To date, Queensland has not experienced a sizeable burden of long COVID cases in its health system. This is likely to be due to the Queensland population's low exposure to earlier, more virulent COVID-19 variants, and its high vaccination rate when the population was exposed to the milder Omicron variant.

Nevertheless, Queensland Health continues to monitor for evidence of impact from long COVID across its system, and provides ongoing guidance and support to clinicians and the public.

Our health system's response to long COVID has been reframed as "Your Recovery from COVID-19", and our experiences have informed this submission. A summary of our recommendations is below, with further detail contained in the paper's *Recommendations* chapter.

1. **Long COVID prevalence is likely to be lower in jurisdictions whose populations were largely exposed to the milder Omicron variant while vaccinated.**
   Any national response should account for jurisdictional variance due to the different contexts and disease burdens of the various States and Territories.

2. **Health service responses to long COVID should be strengths-based and framed around "recovery".**
   Our experience – supported with emerging evidence – suggests that when service responses are framed around "recovery", patients associate this with lower disease severity and duration than responses framed around "long COVID". It also recognises that the vast majority will fully recover in time.

3. **Patients with long COVID should be distinguished from those who experienced critical illness (for example those with Post Intensive Care Syndrome) and those with pre-existing conditions that were exacerbated by COVID-19.**
   Each of these three groups have distinct clinical management requirements. It is not appropriate, for example, to conflate the reconditioning of a post-intensive care ventilated patient with the management of protracted post-viral fatigue following mild disease.

4. **The clinical definition of long COVID should include:**
   a) Persistent symptoms at least 12 weeks after infection.
   b) The ongoing symptoms impact on the patient's everyday functioning (when compared to pre-COVID levels).
   c) The exclusion of "new symptoms" as a potential indicator of long COVID, and instead recommend that patients test for a new COVID or other viral infection if the new symptoms arise 35 days or more after a previous positive test.

5. **Primary Care is the main setting for the management of patients experiencing a longer recovery from COVID-19. Key areas requiring support are:**
   a) Consistent clinical guidance and resources for primary care providers and for patients.
   b) Improved access to community allied health services, to which GPs could refer patients for symptom management (rather than a dedicated long COVID-19 service).
   c) Funding to support allied health engagement.

6. **It is important to recommend that people remain up to date with their vaccinations.**
   The best way of protecting people from long COVID and from reinfection is to protect against COVID-19 itself.

To date, 1.9% of all confirmed COVID-19 infections in Queensland are in people who have been infected more than once. There are some early indications that adults who are not up to date with their vaccination schedule are at 60% greater risk of reinfection (2.4%) compared with adults of the same age who are up to date with their vaccinations (1.5%).

Given the relatively low rates of reinfection at the time of writing, Queensland Health will continue monitoring this but does not yet have sufficient information to discern any impacts arising from repeated infections from COVID-19.

Relevant Terms of Reference

This response addresses the following Terms of Reference for this committee:[1]

2. The experience of healthcare services providers supporting patients with long COVID and/or repeated COVID infections;

3. Research into the potential and known effects, causes, risk factors, prevalence, management, and treatment of long COVID and/or repeated COVID infections in Australia;

5. The impact of long COVID and/or repeated COVID infections on Australia's overall health system, particularly in relation to deferred treatment, reduced health screening, postponed elective surgery, and increased risk of various conditions including cardiovascular, neurological and immunological conditions in the general population; and

6. Best practice responses regarding the prevention, diagnosis and treatment of long COVID and/or repeated COVID infections, both in Australia and internationally.

[1] https://www.aph.gov.au/Parliamentary_Business/Committees/House/Health_Aged_Care_and_Sport/LongandrepeatedCOVID/Terms_of_Reference

1. Overview

Queensland's Context

Prior to the arrival of the milder Omicron variant, Queensland had experienced a very low rate of COVID-19 infections. By early 2022, as its Omicron wave began to grow, over 90% of eligible Queenslanders were double vaccinated. At the time of writing, the Omicron variant has accounted for 99.7% of all confirmed COVID-19 cases across Queensland, while 91.5% of Queenslanders are double vaccinated against COVID-19, and over 65% are triple vaccinated. This means Queensland's response to this inquiry reflects its experience of a milder COVID-19 variant infecting a highly vaccinated population.

Understanding Long COVID

Research and literature on long COVID are plagued with inconsistency. Unfortunately, there is a paucity of quality evidence on the subject. As a result, media reports often relay "worst-case" scenarios which are based on poorly designed research, or which reflect individual experiences that accept self-reported post-COVID poor health as long COVID. These have little relevance to the current population health context of Queensland and Australia.

However, it has created an environment where, in the words of one Queensland consumer representative, "*I'm more afraid of getting long COVID than I am of getting COVID*".

Some of the key issues with studies and reports on long COVID are:

1. **The use of different definitions and time periods.**
   The World Health Organisation's (WHO) clinical case definition refers to ongoing symptoms usually 3 months from infection.[2] In contrast, the US Centre for Disease Control's definition considers long COVID to be ongoing symptoms after 4 weeks.[3] Other agencies and publications use different time periods and definitions.

2. **The lack of a definitive diagnosis.**
   There remains no definitive test for long COVID. Instead, it is considered a "diagnosis of exclusion" requiring the elimination of other potential conditions and explanations.[4]

3. **The variety of potential symptoms.**
   The WHO has cited over 200 potential symptoms in the literature.[5] To complicate diagnosis, it has been noted that "*Commonly reported post-acute COVID-19 symptoms are not specific to COVID-19 and are commonly reported regardless of infection status, for a variety of reasons*".[6] Coupled with the lack of a definitive diagnosis, this means there is a higher risk of diagnosing long COVID where other factors may offer an equally justifiable explanation (eg poor post-pandemic mental health, deconditioning due to inactivity, temporal associations like age-related hair loss).

[2] World Health Organisation (WHO). A clinical case definition of post COVID-19 condition by a Delphi consensus, 6 October 2021. WHO/2019-nCoV/Post_COVID-19_condition/Clinical_case_definition/2021.1. (accessed 17 Dec 2021); https://pesquisa.bvsalud.org/global-literature-on-novel-coronavirus-2019-ncov/resource/pt/grc-750263 (2021).

[3] https://www.cdc.gov/coronavirus/2019-ncov/long-term-effects/index.html

[4] Allsopp G, Blythe J. The long-term management of COVID-19 and post COVID-19 syndrome. *InnovAiT*. 2022;15(7):383-387. doi:10.1177/17557380221092790

[5] https://www.who.int/emergencies/diseases/novel-coronavirus-2019/media-resources/science-in-5/episode-68-covid-19-update-on-long-covid

[6] Kuodi P, Gorelik Y, Zayyad H, Wertheim O, Wiegler KB, Abu Jabal K, Dror AA, Nazzal S, Glikman D, Edelstein M. Association between BNT162b2 vaccination and reported incidence of post-COVID-19 symptoms: cross-sectional study 2020-21, Israel. NPJ Vaccines. 2022 Aug 26;7(1):101. doi: 10.1038/s41541-022-00526-5. PMID: 36028498; PMCID: PMC9411827.

4. **The behaviour of variants.**
   Many reports reflect earlier, more virulent strains of the virus (and their impact on unvaccinated populations).

5. **The impact of vaccination.**
   Many reports cover earlier periods of the pandemic at a time when the population was either unvaccinated or partially vaccinated.

6. **The lack of consideration given to functional impact.**
   Where ongoing symptoms are reported, it is uncommon for reports to define the nature of any ongoing functional impact. As a result, a mild lingering occasional dry cough risks being considered of equal impact with fatigue severe enough to inhibit a return to work.

7. **The inclusion of hospitalised patients.**
   Long COVID studies often involve hospitalised (including former intensive care) patients. It is difficult to discern if ongoing concerns after COVID-19 for this group are attributable to an exacerbation of pre-existing co-morbidities/disability, "post-intensive care syndrome", or long COVID.

8. **The reliance on self-reported symptoms.**
   Many studies rely on self-reported symptoms for enrolment and subsequent participation. Large, frequently cited studies (for example the UK's Office of National Statistics' reports on long COVID)[7] are at greater risk of overestimating prevalence due to their lower reliability and the "response bias" effect where people with symptoms are more likely to respond.

9. **Proactive patient follow-up and invitation to attend long COVID clinics.**
   Some health services contact former COVID patients during their recovery to provide information about long COVID and their clinics. There are risks that such approaches may affect recovery in some patients, including the potential for the "nocebo effect" and "iatrogenic somatic fixation".[8,9]

10. **The reliance on retrospective studies.**
    There are relatively fewer prospective studies, with most reports drawing from retrospective analysis which introduces significant biases in the recall of experiences and events, and in the selection of controls (if they are included at all – see next point).

11. **The lack of control groups.**
    It has been widely recognised that a lack of control groups in long COVID research has risked study integrity and potentially overestimated prevalence.[10]

In this context, patient identification and management are complicated. A clinician must consider factors like the patient's immune status, symptoms that are also common in the non-COVID population, potential confirmation bias in attributing these symptoms to long COVID, potential explanations of post-viral syndrome or a temporally associated condition, impacts of post-viral exacerbation, the condition's links with low mental health,[11] the likelihood of natural recovery over time, and the risk of generating the nocebo effect.

As a result, Queensland has taken a cautious approach when reviewing reports on the prevalence and impact of long COVID, and when considering its health system response.

[7] https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/bulletins/prevalenceofongoingsymptomsfollowingcoronaviruscovid19infectionintheuk/latest

[8] Benedetti F, Lanotte M, Lopiano L, Colloca L. When words are painful: unraveling the mechanisms of the nocebo effect. Neuroscience. 2007 Jun 29;147(2):260-71. doi: 10.1016/j.neuroscience.2007.02.020. Epub 2007 Mar 26. PMID: 17379417.

[9] Barsky AJ. The Iatrogenic Potential of the Physician's Words. JAMA. 2017;318(24):2425–2426. doi:10.1001/jama.2017.16216

[10] Hirt J, Janiaud P, Gloy VL, et al Robustness of reported postacute health outcomes in children with SARS-CoV-2 infection: a systematic review Archives of Disease in Childhood Published Online First: 02 September 2022. doi: 10.1136/archdischild-2022-3244552022

[11] Wang S, Quan L, Chavarro JE, et al. Associations of Depression, Anxiety, Worry, Perceived Stress, and Loneliness Prior to Infection with Risk of Post–COVID-19 Conditions. JAMA Psychiatry. Published online September 07, 2022. doi:10.1001/jamapsychiatry.2022.2640

Prevalence of long COVID

The WHO has said "*current evidence suggests approximately 10-20% of people*" experience long COVID.[12]

This is likely to be a considerable overestimation within Queensland Health's jurisdiction, principally because its population has been highly vaccinated upon exposure to the milder Omicron variant.

Queensland Health has estimated that the prevalence of long COVID is currently low.

This is informed by:

1. **Advice from a General Practitioner (GP) Long COVID Focus Group.**
   The Focus Group was convened in August 2022 to advise on the demand for – and shape of – services to support people experiencing a longer recovery from COVID-19.

   Representatives included GPs working across rural, remote and urban contexts, First Nations Health, GP Liaison Officers, and position holders with the Australian Medical Association (AMA), Royal Australian College of General Practitioners (RACGP) and local Primary Health Networks.

   The Focus Group advised it did not currently see significant demand in primary care services.

   It unanimously agreed that the management of long COVID did not warrant the establishment of tertiary specialist services in Queensland's context, based on current experience. Instead, it advised that the condition can currently be managed within primary care.

   Despite this low demand, there remains a need for:
   - Consistent GP clinical guidance and resources.
   - Improved access to community allied health services, to which GPs could refer patients for symptom management (rather than a dedicated Long COVID-19 service).
   - Funding to support allied health engagement. This may be similar to a GP chronic disease management (CDM) plan, and be time-bound (e.g. for a 3 month period after diagnosis at least 12 weeks post-infection). However, a CDM plan anticipates chronicity of 6 months and therefore is not usable as-is, nor is it recommended that long COVID be associated with chronic disease.

2. **Advice from other representative bodies.**
   Consultations have occurred with a range of Primary Health Networks, GP groups, and Hospital and Health Services. In addition, regular discussions have occurred with the 13Health/134COVID consumer contact centre and the Queensland Rehabilitation Clinical Network.

   These have all advised that the demand for long COVID services is currently low.

3. **Demand in a metropolitan long COVID service**
   A long COVID community rehabilitation support service was established early in 2022 by the Metro South Hospital and Health Service (MSHHS). The MSHHS footprint covers the large and diverse Brisbane metropolitan region on the southern side of the Brisbane River, catering to a population of over a million people.

   Its long COVID service features a multidisciplinary community allied health service covering both rehabilitation and respiratory support.

   At the time of writing, it is the only state-run long COVID service, and has received a low number of referrals.

[12] https://www.who.int/news-room/questions-and-answers/item/coronavirus-disease-(covid-19)-post-covid-19-condition

4. **Literature reviews relevant to Queensland's context.**
   Queensland Health continues to monitor the emerging evidence to ensure it is aware of potential developments and prepared for possible impacts to its health system. Some areas of emerging research that will be monitored include:
   - The different long COVID risks associated with Delta and Omicron variants, and the benefits of vaccination. Research is suggesting a low prevalence of long COVID in highly vaccinated populations affected by the Omicron variant.[13]
   - The association between vaccination and incidence of long COVID. There is emerging evidence suggesting individuals who had received two doses of Pfizer vaccine "*reported no more of these [long COVID] symptoms than individuals never reporting an infection*".[14]
   - The differences in common long COVID symptoms between vaccinated, unvaccinated and uninfected populations. Some research is noting that, at 5-6 months, post-covid complaints were only slightly more prevalent in persons with than without confirmed COVID-19 infection.[15]

Prevalence of repeated COVID-19 infections

To date, 1.9% of all confirmed COVID-19 infections in Queensland are for people who have been infected more than once. There are some early indications that adults who are not up to date with their vaccination schedule are at 60% greater risk of reinfection (2.4%) compared with adults of the same age who are up to date with their vaccinations (1.5%).

Given the relatively low rates of reinfection at the time of writing, Queensland Health will continue monitoring this but does not yet have sufficient information to discern any impacts arising from repeated infections from COVID-19.

[13] M Antonelli, JC Pujol, TD Spector, S Ourselin, CJ Steves. Risk of long COVID associated with delta versus omicron variants of SARS-CoV-2. Lancet, 399 (2022), pp. 2263-2264

[14] Kuodi, P., Gorelik, Y., Zayyad, H. et al. Association between BNT162b2 vaccination and reported incidence of post-COVID-19 symptoms: cross-sectional study 2020-21, Israel. npj Vaccines 7, 101 (2022). https://doi.org/10.1038/s41541-022-00526-5

[15] Magnusson, Karin & Turkiewicz, Aleksandra & Flottorp, Signe & Englund, Martin. (2022). Development of long-covid, or prevalent complaints in general?. 10.21203/rs.3.rs-1684643/v1 (PRE-PRINT).

2. Queensland's response: "Your Recovery from COVID-19"

Queensland continues to monitor the demand across its health system for long COVID services, and provides ongoing guidance and support to clinicians and the public.

A fundamental element of Queensland's response is that it is reframed around "your recovery from COVID-19". This strengths-based approach includes the following advice:

- **Everybody recovers differently.** While most people will recover quickly, some may feel like their recovery takes several weeks or months. This is not unusual, and a longer-than-expected recovery can happen with other viruses (long symptom syndromes were also observed in SARS and MERS). Most people fully recover in time.
- **Take time to recover.** It is best that people ease back into their daily routines and activities and avoid immediately returning to the same levels of pre-COVID activity and intensity.

In addition, there are indications that a framing around "recovery" rather than "long COVID" enhances patients' expectations of lower symptom severity and duration, and increases their sense of control over their health.[16] It also reduces any potential for a nocebo effect.

The "recovery" theme is echoed through Queensland Health's approach described below.

Information and guidance for clinicians

This has been summarized on a Queensland Health webpage for clinicians,[17] where additional advice includes:

1. **Alignment to the WHO definition of long COVID, with two exceptions:**
   a) Instead of considering "new symptoms" as a potential indicator of long COVID, Queensland Health advises that patients test for a new COVID infection if the new symptoms arise 35 days or more after a previous positive test.
   b) To meet the criteria of long COVID, symptoms need to be impacting on the patient's everyday functions. Several resources are available on the Qld Health website, including the Post COVID Functional Status (PCFS) scale,[18] the Yorkshire Rehabilitation Screening tool,[19] and the Symptom Burden Questionnaire for Long COVID.[20]

2. **Considering three distinct post-COVID patient cohorts to enhance management:**
   a) Patients who have experienced critical illness or a prolonged period of moderate to severe disease with resulting deconditioning, respiratory, cardiac and cognitive complications. For example, those with Intensive Care Unit (ICU) related complications and Post Intensive Care Syndrome (PICS).
   b) Patients with pre-existing chronic medical conditions or disability that has been exacerbated by their COVID illness and may require significant intervention to regain baseline function.
   c) Patients experiencing a longer recovery from COVID-19 (ie patients with long COVID).

[16] Mills, F., Bhogal, J. K., Dennis, A., Spoiala, C., Milward, J., Saeed, S., Jones, L. F., Weston, D., & Carter, H. (2022, September 15). The Effects of Messaging on Long COVID Expectations: An Online Experiment. Health Psychology. Advance online publication. http://dx.doi.org/10.1037/hea0001230

[17] https://www.health.qld.gov.au/clinical-practice/guidelines-procedures/novel-coronavirus-qld-clinicians/covid-19-recovery-and-long-covid-19

[18] https://osf.io/5n4g3

[19] https://c19-yrs.com/wp-content/uploads/2022/06/Self-report-C19-YRS-latest-version-April-2021.pdf

[20] https://licensing.micragateway.org/product/the-symptom-burden-questionnaire-for-long-covid-sbq-lc

3. **Identifying red flag symptoms.**
   These align to those described by the RACGP[21] and the National COVID-19 Clinical Evidence Taskforce.[22]

4. **Recommending a range of self-management approaches and tools, when appropriate.**
   These include:
   a) A range of Queensland Health resources developed in conjunction with Health Consumers Queensland.
   b) The UK's Royal College of Occupational Therapist's "three Ps principle" of pace, plan and prioritise.[23]
   c) The RACGP's patient resource to manage post-COVID-19 symptoms.[24]
   d) The WHO's "support for rehabilitation: self management after COVID-19-related illness".[25]

5. **Links to other clinical guidance to support patient management, including:**
   a) the Primary Health Networks' (PHN) HealthPathways advice on long COVID. Importantly, the long COVID resource page (called "Post-COVID-19 Conditions") is centrally managed and so readers from different PHNs will come to the one webpage. Also, Queensland Health is collaborating with the HealthPathways clinical authors to ensure consistency in clinical advice.
   b) The National COVID-19 Clinical Evidence Taskforce's living guidelines for long COVID (called "Care after COVID-19").[26]
   c) NSW Agency for Clinical Innovation's living evidence summary for post-acute sequelae of COVID-19 (long COVID).[27]

Information and guidance for the public

This has been summarized on a Queensland Health webpage for the public,[28] where advice includes:

1. **Framing around recovery.**
   This includes acknowledging that everyone recovers differently, and the majority will fully recover in time.

2. **Taking time to ease back into daily routines and activities.**
   This recommends a gradual return to pre-COVID levels of activity and exercise.

3. **Reconnecting with friends and family.**
   This aims to encourage people to re-engage with others to share stories in a supportive context, and intends to enhance mental health during recovery.

4. **Applying the "Three Ps Principle" of pace, plan and prioritise.**
   This is as per the advice from the UK's Royal College of Occupational Therapy.

[21] https://www.racgp.org.au/clinical-resources/covid-19-resources/clinical-care/caring-for-patients-with-post-covid-19-conditions/introduction

[22] https://covid19evidence.net.au/wp-content/uploads/FLOWCHART-CARE-AFTER-COVID-19.pdf

[23] https://www.rcot.co.uk/conserving-energy#:~:text=Learning%20to%20pace%2C%20plan%20and,help%20you%20to%20save%20energy.&text=Pacing%20yourself%20will%20help%20you,are%20tired%20rather%20than%20exhausted.

[24] https://www.racgp.org.au/clinical-resources/covid-19-resources/patient-resources/patient-resource-managing-post-covid-19-symptoms/introduction

[25] https://www.who.int/europe/publications/i/item/WHO-EURO-2021-855-40590-59892

[26] https://app.magicapp.org/#/guideline/L4Q5An/section/jDJJJQ

[27] https://aci.health.nsw.gov.au/covid-19/critical-intelligence-unit/post-acute-sequelae

[28] https://www.qld.gov.au/health/conditions/health-alerts/coronavirus-covid-19/i-have-covid/your-recovery-from-covid-19

5. **Recommending a range of self-management approaches and tools.**
   These are the same as those recommended on Queensland Health's clinician-facing web page (see earlier section and links).

6. **Advising people to have a COVID test with any new symptoms 35 days or more after a previous positive test.**
   This updates the WHO case definition to reflect the likelihood that new symptoms are due to re-infection (from more infectious variants that post-date the WHO's definition).

7. **Speaking with their GP or treating medical professional.**
   This supports those with concerns about their recovery.

8. **Recommending that people remain up-to-date with their vaccinations.**
   It is acknowledged that the best way of protecting people from long COVID is to protect against COVID-19 itself by keeping up to date with vaccinations.

Ascertaining the need for long COVID services

Queensland Health continues to monitor the need for long COVID services across its system.

Please refer to the above section titled "Prevalence of long COVID" for two examples of this:
- **Ongoing advice from key health service providers and representative bodies** (points 1-3); and
- **Ongoing reviews of current literature relevant to Queensland's context** (point 4).

In addition, a variety of surveys are currently in progress to ascertain demand. They include:

1. Understanding Post Viral Functional Impact (comparing COVID-19, influenza and a control group)
This survey is led by Queensland Health's COVID Health System Response team and is seeking to understand Queenslanders' recovery from illness twelve weeks after a PCR test. This timeframe is to align to the WHO's three-month threshold for possible long COVID. It is targeting people who, twelve weeks prior:
- Tested positive to COVID-19 with this recorded in the Notifiable Conditions System
- Tested positive to influenza with this recorded in the Notifiable Conditions System.
- Received a negative PCR result for COVID-19 and influenza with this recorded in the Notifiable Conditions System.

The survey itself is modelled on the validated Post-COVID Functional Screen (PCFS) tool,[29] which aims to identify the degree of functional impact following COVID-19. A text message is sent to the person's mobile phone with their first name and date of their PCR. If they choose to participate, a maximum of four questions are asked.

It is messaged around Queensland Health seeking to understand "Your Recovery" from either COVID-19, influenza, or other illness. Respondents who flag no ongoing issues are thanked and their survey ends after the first question. Those with ongoing difficulties progress through the survey and can self-identify the degree of functional impact arising from their ongoing symptoms. Respondents can also consent to future contact to track recovery over time.

This survey was run in September 2022 to align with the peak of Queensland's influenza cases three months prior in June 2022.

2. Long COVID Survey of GPs in Brisbane South PHN
This survey is led by MSHHS. General practitioners within Brisbane South PHN (approx. 1,500) will be sent a short survey to ascertain the number and proportion of long COVID patients (ie persistent

[29] https://erj.ersjournals.com/content/56/1/2001494

symptoms >12 weeks from diagnosis) amongst respondents. It will seek information on the symptom profile, any further investigation of symptoms, any referrals and ongoing treatment.

The data will be able to be disaggregated by patient age and gender as well as practice postcode. The survey will run in October 2022, with data analysis to commence shortly afterwards.

3. QoVAX Survey of Queenslanders

This survey is led by Queensland Health's QoVAX Program which investigates the factors affecting vaccine response to COVID-19 and how it is related to naturally acquired infection.[30]

The QoVAX database contains several thousand people who consented to participate in follow-up research. In this survey, participants will be asked a comprehensive set of questions covering demographics, risk factors, health profile, etc. Those who self-report that they had COVID-19 will be asked about the date of infection, types of symptoms, and functional impact. The duration of long COVID symptoms will be ascertained by comparing date of infection with any symptoms reported at the time of survey completion.

Some participants will give blood and the QoVAX team has flagged the potential to analyse the impact of different variants on symptom profile. Data analysis will commence in late 2022.

[30] https://www.health.qld.gov.au/research-reports/research-projects/qovax-set-covid-19-vaccine-research-program/about

3. Recommendations

Any national response to long COVID should consider the below:

1. **Long COVID prevalence is likely to be low in jurisdictions whose populations were largely exposed to the milder Omicron variant while vaccinated.**

   Research on long COVID is frequently low quality and not relevant to Queensland's context of high vaccination rates and recent milder variants. As a result, these publications and reports risk inflating estimates of prevalence, health impacts, and community anxiety.

2. **Health service responses to long COVID should be strengths-based and framed around "recovery", including:**
   a) Messaging that the vast majority of people can be expected to recover fully in time.
   b) Advising that people should ease back into their daily routines and activities and avoid immediately returning to the same levels of pre-COVID activity and intensity

   There is evidence that the term "long COVID" is associated with patient expectations of greater disease burden and duration, and less control over their health.

3. **Three distinct post-COVID patient cohorts should be recognised to support appropriate identification and management by clinicians:**
   a) Patients who have experienced critical illness or a prolonged period of moderate to severe disease with resulting deconditioning, respiratory, cardiac and cognitive complications. For example, those with Intensive Care Unit (ICU) related complications and Post Intensive Care Syndrome (PICS).
   b) Patients with pre-existing chronic medical conditions or disability that has been exacerbated by their COVID illness and may require significant intervention to regain baseline function.
   c) Patients experiencing a longer recovery from COVID-19 (ie patients with post COVID condition or long COVID).

4. **Aligning to the WHO definition of post-COVID condition (long COVID) where symptoms must persist 12 weeks after infection, but with two exceptions:**
   a) Do not include "new symptoms" as a potential indicator of long COVID, and instead recommend patients test for a new COVID or other viral infection if the new symptoms arise 35 days or more after a previous positive test.
   b) The patient's persisting symptoms must impact on their ability to perform at their pre-COVID level of everyday activities and functions.

5. **Supporting Primary Care as the main setting for the management of patients experiencing a longer recovery from COVID-19. Support includes:**
   a) Consistent GP clinical guidance and resources both for GPs and self-management resources for patients. This should include advice on when it is necessary to refer a patient on for further management.
   b) Improved access to community allied health services, to which GPs could refer patients for symptom management (rather than a dedicated long COVID-19 service).
   c) Funding to support allied health engagement. This may be similar to a GP chronic disease management (CDM) plan, and be time-bound (e.g. for a 3 month period after diagnosis at least 12 weeks post-infection). However, a CDM plan anticipates chronicity of 6 months therefore not usable as is, nor is it recommended that long COVID be associated with the notion of chronic disease.

9. **It is important to recommend that people remain up to date with their vaccinations.**
   The best way of protecting people from long COVID and from reinfection is to protect against COVID-19 itself.

To date, 1.9% of all confirmed COVID-19 infections in Queensland are for people who have tested positive more than once. Given these relatively low rates of reinfection at the time of writing, Queensland Health does not yet have sufficient information to discern any impacts arising from repeated infections from COVID-19.

End.