

# Long COVID impacts people's ability to work: cross-sectional study in Aotearoa New Zealand

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**L**ong COVID is defined as COVID-19 symptoms or sequelae that persist for longer than 3 months without an alternative explanatory cause.<sup>1</sup> It is increasingly being recognised as a serious global health concern that has a significant impact on people's ability to fulfil their desired social roles and is associated with a low quality of life.<sup>2</sup> This ongoing, debilitating condition varies in severity, with symptoms affecting people's ability to work.<sup>3</sup> These impacts are likely to disproportionately affect Indigenous and economically disadvantaged populations.<sup>4</sup>

The impacts of not being able to work extend beyond the individual to affect whole families/whānau, through caregiving, lost income, change in identity and lower self-esteem, which are all likely to directly affect physical and/or mental health. Inability to work also affects employers, occupational health services and the wider economy.<sup>5</sup> International data suggests that among people with long COVID, about half work fewer hours and a quarter do not work as a direct result of being ill.<sup>6</sup>

## Methods

Full details of the recruitment strategy and data collection of the *Ngā Kawekawe o Mate Korona | Impacts of COVID-19 in Aotearoa* study have been described previously.<sup>7</sup> Briefly, all people aged 16 or over in Aotearoa New Zealand who had definite or probable COVID-19 before 1 December 2021, and were not living in a dementia unit, were eligible for inclusion. Quantitative data were collected through an online survey between February and June 2022. Survey questions included health-related quality of life (HRQoL),<sup>8</sup> income sufficiency, job loss and productivity questions. HRQoL were compared to normative population values.<sup>9</sup> Ethical approval was given by the Health and Disability Ethics Committee on 15 January 2022 (ref 2021 EXP 11900), and an amendment approved on 26 April 2022 (ref 2022 AM 11900).

## Results

Of 8,735 eligible people, 990 answered at least one of the four available survey modules. The median follow-up period, i.e., time from having COVID-19 to completing the survey, was 16 months (inter-quartile range 6 to 23 months). Of the 405 people who answered the long COVID module, 217 people (33 Māori, 184 non-Māori) reported at least one symptom lasting 3 months or more and were classified as having long COVID; results reported below relate to these 217 people. The most conservative estimate of the prevalence of long COVID is thus 2.5% (217/8,735).

Persisting symptoms had significant effects on people's day-to-day lives, with moderate, severe or extreme impacts on mobility (16% vs 10.2% in the general population), self-care (5% vs 2.1%), usual activity (28% vs 9.9%), pain (30% vs 18.9%) and anxiety/depression (30% vs 17.5%). The mean EQ-5D-5L utility score among people with long COVID was 0.750 for Māori and 0.730 for non-Māori, compared to 0.847 in the general population.<sup>9</sup>

Three-quarters (74%) of respondents had time off work or study during the follow-up period; the median time off was 22 days, and 11% had more than 3 months off work, because of having had COVID-19. In the first month of being ill, only 5% of people could work or study as normal; 42% could not work at all, 30% had to cut down their hours and 17% reported working the same amount of time, but that it felt harder and/or they got less done. After the first month, 3% could not work at all, 24% had cut down their hours and 36% reported working the same amount of time, but that it felt harder and/or they got less done. In real terms, this translates to about 40,000 people in Aotearoa New Zealand who are likely to be less able to work or less productive at work due to the ongoing effects of COVID-19.

In the first month of being ill, one-third (34%) of

people who subsequently developed long COVID reported a decrease in income due to COVID-19, 37% reported financial worries and 20% agreed or agreed strongly that their households struggled to pay basic living costs. Each of these latter metrics was more common in Māori than non-Māori, see Table 1.

## Discussion

People with long COVID face difficulties in being able to work and/or retaining pre-illness levels of productivity, resulting in economic hardship. Given the low response rate, the results must be interpreted with some caution, due to the potential of selection bias. Qualitative work (unpublished data) carried out alongside the survey reported here found evidence of people returning to work too early in their post-COVID recovery, which subsequently necessitated more time off work, while other people felt compelled to return to work due to financial circumstances.

The financial impacts that we reported are greater for Indigenous Māori than non-Māori. Although we did not have data on financial impacts beyond the first month, this will be the focus of future work. However, the data indicate that any return-to-work interventions could

benefit Māori and be a pathway through which to address long-standing socio-economic inequities.

The Ministry of Business, Innovation and Employment advises employers to treat people with long COVID as they treat anyone with a chronic illness. This differs from the legal obligation on employers to make reasonable adjustments to workplace conditions for employees with a disability. In the absence of legislation, we need evidence-based guidance to inform policy and practice. A UK agency has identified some good practice points but acknowledges that evidence is needed on how to best support people with long COVID to stay in or return to work.<sup>10</sup> The New Zealand Ministry of Health has acknowledged the impact that long COVID has on work,<sup>11</sup> but has not made recommendations about how to mitigate this. In the absence of national guidance, a patient group has developed a best-practice framework for managing employees with long COVID in Aotearoa New Zealand.<sup>12</sup>

Prevention of long COVID is only possible by avoiding SARS-CoV-2 infection. As infections continue to occur, so will the incidence and burden of long COVID. Supportive return-to-work policies will have benefits for employees and their dependents, as well as employers and the economy.

**Table 1:** Effect of COVID-19 on income in the first month of being unwell among people with long COVID.

	Māori	Non-Māori	P value
Income decreased	50%	31%	0.015
Had money worries	63%	33%	0.068
Struggled to pay for basic living costs	56%	15%	<0.001

**COMPETING INTERESTS**

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