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Productivity loss due to acute COVID-19 and post COVID-19 condition in the Northern Netherlands

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Introduction: The COVID-19 pandemic caused significant socio-economic and health shocks worldwide. Yet, research is still scarce on how acute COVID-19 and post COVID-19 condition (PCC) have impacted workers productivity in terms of absenteeism, presenteeism and reduced unpaid work. This study examines the effect of acute COVID-19 and PCC on Dutch workers' loss of work productivity in standardized hourly costs compared to those with neither disease.

Methods: This study included data from 31 waves (March 2020 - October 2022) of the Lifelines COVID-19 cohort, a populational cohort from the Netherlands. Productivity was measured in 7 waves in terms of absenteeism, presenteeism, and loss of unpaid work using the Medical Technology Assessment Productivity Costs Questionnaire. We selected workers aged 18 to 64 in the first wave (n = 10,950). Using administrative data, average hourly costs of productivity were calculated as 38.67€ for absenteeism and presenteeism and 15.94€ for unpaid work. The friction cost method was used. To compare group differences, a Kruskal-Wallis rank sum test with Holms-Bonferroni p-value adjustment was performed.

Results: In total, 33.4% of participants had acute COVID-19, 5.7% had PCC, and 60.9% had neither disease. The mean total combined productivity loss per person of those with PCC was 7,118€, compared to 3,410€ for those with acute COVID-19, and 3,076€ for those with neither. When comparing groups, significant differences in costs were found for all aspects of productivity, except for unpaid work loss between acute COVID-19 and those with neither disease.

Discussion: Although the number of people with acute COVID-19 represents a large societal cost in terms of accumulated loss, those with PCC incurred on average twice as much productivity losses per person across all domains. This study highlights the high costs associated with PCC, which continues to chronically burden workers. Policies should be aimed at lessening this burden.

Key messages:

- Post COVID-19 condition is associated with significantly higher average productivity costs per person than acute COVID-19, which highlights the individual burden of this chronic disease.
- Acute COVID-19, despite relatively lower average productivity costs, represents a large societal cost in terms of accumulated loss.