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## Letter

## Viral and serological testing of SARS-CoV-2 among health care workers and patients in Vietnam

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Vietnam reports a total of 1819 cases with 35 deaths (as on 02 February 2021), and transmission driven by clusters of cases [1]. A rapid, proactive and decisive government response in the early stages of the epidemic in identifying and delineating infection hotspots has led to effective case control management [2].

The sustainability of health systems is significantly challenged by the current COVID 19 pandemic, as frontline health care workers (HCWs) in patient-facing roles are at increased risk [3]. The aim of this single center hospital-based study was to describe the prevalence of SARS-CoV-2 by viral and serological testing in one of the largest hospitals in Vietnam, which serves 2000 hospitalized patients and approximately 4000 outpatients per day.

The study was approved by the institutional review board of the 108 Military Central Hospital, Hanoi, Vietnam (108 MCH-Protocol number 02RES-CoV-3-2020). Between 01 March 2020 and 08 January 2021, we used a combination of RT-PCR assays to detect SARS-CoV-2 RNA and enzyme-linked immunosorbent assays to detect anti-SARS-CoV-2 immunoglobulins (IgM) and total antibodies (See

supplementary material) among HCWs ( $n = 1519$ ), hospitalised patients with respiratory illnesses ( $n = 838$ ), outpatients with respiratory illnesses ( $n = 491$ ) and attending outpatients for routine health-check ( $n = 8897$ ). The median age of HCW was 33 years (range 20–60; 848 male), of respiratory patients 60 years (range 2–102; 811 male) and of outpatients 28 years (range 1–91; 5460 male). All HCWs and patients tested negative for SARS-CoV-2 for only one time point by RT-PCR.

HCWs ( $n = 1065$ ) and hospitalised patients ( $n = 288$ ) who had previously tested negative for SARS-CoV-2 by RT-PCR were prospectively screened for seroprevalence of SARS-CoV-2 antibodies for one time point. Among the HCWs, three were positive for IgM (3/1065), six for total antibodies (6/1065), while all were negative by rapid diagnostic tests (RDT). All three IgM positives were negative for total antibodies and can be considered false positives as the titers were slightly above the cut-off value. All hospitalised patients admitted with respiratory illnesses were negative for SARS-CoV-2 antibodies (IgM, total antibodies and RDT).

A possible explanation for this low prevalence observed in this study is a very low prevalence in the community accompanied by comprehensive staff education, patient triage and implementation of containment protocols in this hospital. HCWs represent a high-risk population for infection and identifying factors associated with

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SARS-CoV-2 infection and monitoring the seroprevalence can help stratify the HCWs in terms of risk, establish better practices and procedures in health facilities, to contain transmission.

### Declaration of Competing Interest

All authors disclose no conflicts of interest.

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### Supplementary materials

Supplementary material associated with this article can be found, in the online version, at [doi:10.1016/j.lanwpc.2021.100113](https://doi.org/10.1016/j.lanwpc.2021.100113).

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