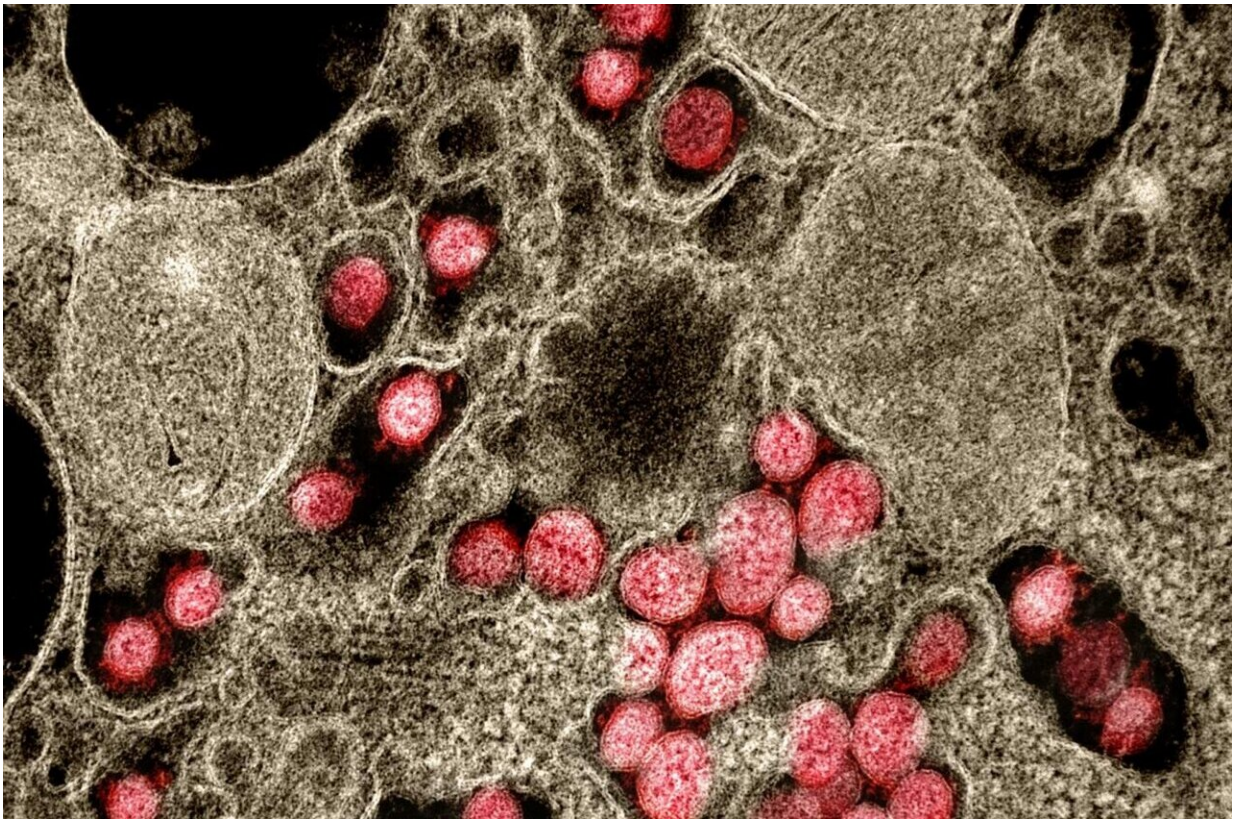


'Overly stringent' criteria early in pandemic led to missed diagnoses of COVID-19

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Transmission electron micrograph of SARS-CoV-2 virus particles isolated from a patient. Credit: NIAID

Research published today in the *Journal of General Virology* has identified missed cases of SARS-CoV-2 by retrospective testing of

throat swabs.

Researchers at the University of Nottingham screened 1,660 routine diagnostic specimens which had been collected at a Nottingham hospital between 2 January and 11 March 2020 and tested for SARS-CoV-2 by PCR. At this stage of the pandemic, there was very little COVID-19 testing available in hospitals, and to qualify [patients](#) had to meet a strict criterion, including recent travel to certain countries in Asia or contact with a known positive case.

Three previously unidentified cases of SARS-CoV-2 infection were identified by the retrospective screening, including one from a 75-year-old female whose positive swab was collected on 21 February 2020. This patient, referred to as Patient 1, died on 3 March; two days before the first official death from COVID-19 was recorded in the UK. Patient 1 had not recently traveled abroad or been in contact with anyone known to have COVID-19 and so did not qualify for a PCR test at the time. In addition to being the first death, the researchers believe that Patient 1 is also the earliest described case of community transmission in the UK.

The further newly-identified cases occurred in a 64-year-old male and a 66-year-old male, both of whom showed signs of chest infections, and both of whom recovered. The samples were collected on 2 March and 8 March 2020 respectively. International travel was only removed as an essential criterion for a SARS-CoV-2 test on 12 March 2020.

The research group collaborated with the COVID-19 Genomics UK Consortium (COG-UK) to sequence the SARS-CoV-2 isolates collected from the swabs used in the study, and found evidence of community transmission in Nottingham as early as February 2020. Through this [genome sequence data](#), the group identified multiple introductions of the virus into Nottingham during late February and the month of March, many of which were a distinct lineage of the virus which dominated

early phases of the outbreak within the region.

Based on the findings, the researchers suggest that testing should have been made available to [hospital patients](#) with compatible symptoms but no travel history earlier in the pandemic response.

More information: Joseph G. Chappell et al, Retrospective screening of routine respiratory samples revealed undetected community transmission and missed intervention opportunities for SARS-CoV-2 in the United Kingdom, *Journal of General Virology* (2021). [DOI: 10.1099/jgv.0.001595](#)

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