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Lessons for managing high-consequence infections from first COVID-19 cases in the UK

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is the cause of an ongoing international outbreak of respiratory illness, known as coronavirus disease 2019 (COVID-19).¹⁻³ In the week commencing Jan 27, 2020, the first two cases were diagnosed in England. Both patients were identified as being at risk while still in the community, and transported directly from their hotel to the regional Infectious Disease Unit at Hull University Teaching Hospitals.

The patients were met on arrival by medical and nursing staff using enhanced personal protective equipment, in accordance with national guidance. They were placed in separate negative pressure rooms with antechambers, and managed there until the results of tests were available. Once both patients were confirmed to have SARS-CoV-2, they were transferred to the designated High-Consequence Infectious Diseases (HCID) Unit in Newcastle, UK.

These first UK cases of COVID-19 raise important points about the management of cases of HCID in England. The decision to test for SARS-CoV-2 is based on a clinical and epidemiological case definition, and testing is only approved if this is met. When tested, neither of these people clearly met the current case definition, and had criteria been strictly applied, testing might not have been done. A decision to test was made because of high clinical suspicion and in response to latest available information about the distribution of infection. It is important that testing is appropriately targeted, and this is best done by applying clear case definitions. However, with any newly emerging infection, case definitions must evolve rapidly as information accrues. There should also be room for

flexibility on the basis of discussion with clinical and public health experts.

These patients were identified in the community and were transferred directly to a specialist isolation facility for assessment. Once the diagnosis was confirmed, the patients were moved to one of the HCID Units commissioned by National Health Service (NHS) England. These units are funded centrally and have to comply with a national specification for the management of confirmed HCID. However, the management and assessment of possible cases of HCID (when the risk of nosocomial transmission may be higher, as has been shown elsewhere in the current outbreak, and in other cases of HCID in England⁴) remains locally commissioned, with no central funding or specification. There is little incentive for acute NHS Trusts or Clinical Commissioning Groups to commission isolation facilities, or to maintain a pool of trained staff, as funding mechanisms are unlikely to cover the significant investment required. Although many areas (as in this case) do have effective local arrangements based on locally commissioned isolation facilities, there are other parts of the country where there are no such facilities and expertise in managing highly transmissible infections is limited. The HCID Units should be supported by a second tier of appropriately commissioned regional facilities so that high-risk suspected cases can be assessed safely and risk of nosocomial transmission minimised.

PM chaired the NHS England Infectious Diseases Clinical Reference Group from 2012–19. All other authors declare no competing interests.

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Published Online
 February 27, 2020
[https://doi.org/10.1016/S0140-6736\(20\)30463-3](https://doi.org/10.1016/S0140-6736(20)30463-3)

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