Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

only three of the seven babies were tested, and the possibility of vertical transmission has since been raised in larger studies.[4] Finally, SARS-CoV-2 infection induces a hypercoagulable state, including elevated levels of D-dimer and fibrinogen, and sometimes progresses to disseminated intravascular coagulation;[5] this complication could be especially dangerous in pregnancy, given a normal underlying hypercoagulable state. The case series by Yu and colleagues provides a starting point for epidemiological studies, but the medical community needs to be circumspect in their conclusions and protect vulnerable workers until safety can be established for both mother and baby.

I declare no competing interests.

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1 Yu N, Li W, Kang Q, et al. Clinical features and obstetric and neonatal outcomes of pregnant patients with COVID-19 in Wuhan, China: a retrospective, single-centre, descriptive study. *Lancet Infect Dis* 2020; **20:** 559–64.
2 Louie JK, Acosta M, Jamieson DJ, Honein MA, California Pandemic Working Group. Severe 2009 H1N1 influenza in pregnant and postpartum women in California. *N Engl J Med* 2010; **362:** 27–35.
3 Hantoushzadeh S, Shamshirsaz AA, Aleyasin A, et al. Maternal death due to COVID-19 disease. *Am J Obstet Gynecol* 2020; published online April 28. DOI:10.1016/j.ajog.2020.04.030.
4 Zeng L, Xia S, Yuan W, et al. Neonatal early-onset infection with SARS-CoV-2 in 33 neonates born to mothers with COVID-19 in Wuhan, China. *JAMA Pediatr* 2020; published online March 26. DOI:10.1001/jamapediatrics.2020.0878.
5 Kollias A, Kyriakoulis KG, Dimakakos E, Poulakou G, Stergiou GS, Syrigos K. Thromboembolic risk and anticoagulant therapy in COVID-19 patients: emerging evidence and call for action. *Br J Haematol* 2020; published online April 18. DOI:10.1111/bjh.16727.

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Seroconversion in household members of COVID-19 outpatients

We read with interest the Article by Qifang Bi and colleagues,[1] in which they reported a household secondary attack rate, as detected by repeated RT-PCR tests, of approximately 11%. We have found substantially higher attacks rates in western Norway through detection of antibodies to severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2).

The first case of COVID-19 in Norway was identified in Bergen on Feb 28, 2020, before the outbreak was declared a pandemic, allowing rigorous testing of suspected cases before and during the rise in confirmed cases. All suspected COVID-19 cases in the peak period between Feb 28 and April 4 were referred to the Bergen municipality emergency room for centralised evaluation and testing according to a strict exposure likelihood algorithm, allowing an overview of the early virus spread in the population. If a family was exposed, only the index case was tested for SARS-CoV-2 infection. Both cases and household members were tested for specific antibodies to the receptor binding domain of SARS-CoV-2, as described by Stadlbauer and colleagues,[2] at 6 weeks after the index patient tested positive by RT-PCR.

Of 158 cases, 125 (79%) tested positive for antibodies and 12 (8%) were defined as borderline. In 77 household members, 24 (31%) tested positive and two (3%) were borderline. Our results show that detection of seroconversion might provide a more accurate picture of attack rates in households than intermittent RT-PCR testing.

FK reports that an assay used to screen for seroconversion was developed in his laboratory and that Mount Sinai has filed patent applications to protect that assay, has licensed its use for several companies, and is commercialising the assay. All other authors declare no competing interests.

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1 Bi Q, Wu Y, Mei S, et al. Epidemiology and transmission of COVID-19 in 391 cases and 1286 of their close contacts in Shenzhen, China: a retrospective cohort study. *Lancet Infect Dis* 2020; published online April 27. https://doi.org/10.1016/S1473-3099(20)30287-5.
2 Amanat F, Stadlbauer D, Strohmeier S, et al. A serological assay to detect SARS-CoV-2 seroconversion in humans. *Nat Med* 2020; published online May 12. https://doi.org/10.1038/s41591-020-0913-5.

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See **Online** for appendix

Appropriate selection of convalescent plasma donors for COVID-19

We read with considerable interest the Comment from Long Chen and colleagues[1] about the potential use of convalescent plasma for the treatment of COVID-19. Chen and colleagues mention the earlier pragmatic WHO recommendation for the use of convalescent plasma as therapy in Ebola virus disease.[2] The absence of a clinically relevant therapeutic benefit in patients with Ebola virus infection described by Griensven and colleagues,[3] and more recently the finding of no therapeutic benefit in a small trial in patients with COVID-19 in Zhengzhou, China,[4] will be used to question the usefulness of convalescent plasma in COVID-19. In the Guinea-Bissau Ebola study,[3] no attempt was made to select donors for the potency of their neutralising antibody. In the COVID-19 study,[4] seropositive donors were recruited only after IgM antibody to severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) was no longer detected, and no attempt to quantify the antibody response was reported. We previously described the levels of detectable antibody and the inferred level of neutralising antibody in convalescent plasma donors for patients with Ebola virus disease in Sierra Leone,[5] showing 100-fold