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## Change in obstetric attendance and activities during the COVID-19 pandemic

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We recently reported an increase in stillbirths during the COVID-19 pandemic, which was unlikely to be directly caused by viral infection since none of the women had COVID-19,<sup>1</sup> a finding echoed in Nepal<sup>2</sup> and India.<sup>3</sup> Possible explanations for this observation include indirect effects, such as reluctance of pregnant women to attend hospital because of fear of contracting severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), or changes in obstetric services.<sup>4</sup> We aimed to investigate changes in obstetric attendance and activities at a large London teaching hospital during the first peak of the COVID-19 pandemic in the UK.

We compared the number of women booking for prenatal care, attendances at obstetric triage service for unscheduled care, and number of births at St George's University Hospital, London, UK, in two epochs: Feb 1–June 15, 2020, and Feb 1–June 15, 2019. The first case of COVID-19 in the UK was reported at the end of January; lockdown was implemented on March 23 and eased in mid-June.

The change between the two epochs (2019 vs 2020) was modelled using mixed-effects Poisson regression with random intercepts. Intercepts were allowed to vary between the same weeks of 2019 and 2020 to account for the dependency structure. Results are reported as incidence rate ratios (IRRs) with 95% CIs. The numbers of events were plotted against weeks of the year (appendix). We also did subgroup analyses comparing pre-lockdown and lockdown weeks with the same period of the preceding year. We considered *p* values below 0.05 to be statistically significant. All analyses were done using R version 4.0.2. Ethics committee approval was not required

as the data were collected as part of the service and no identifiable data were included.

The mean number of pregnant women booking for antenatal care per week was 117.2 (95% CI 114.5 to 119.9) during the 2020 epoch compared with 119.6 (112.4 to 126.7) during the 2019 epoch (mean difference −2.4, 95% CI −2.5 to −2.3). The mean number of women attending obstetric triage per week was 96.6 (95% CI 88.9 to 104.3) for 2020 and 119.4 (117.0 to 121.6) for 2019 (mean difference −22.7, 95% CI −22.8 to −22.6). The number of births was 88.8 (95% CI 85.0 to 92.5) for 2020 versus 94.2 (89.7 to 98.6) for 2019 (mean difference −5.4, 95% CI −5.4 to −5.3).

The number of prenatal bookings did not differ between the two epochs (IRR 0.98, 95% CI 0.93–1.05, *p*=0.704; appendix). There were significantly fewer obstetric triage visits in the 2020 epoch than in the 2019 epoch (0.81, 0.75–0.86, *p*<0.0001); this difference was significant for both the pre-lockdown (0.82, 0.74–0.91, *p*=0.0001) and lockdown (0.79, 0.72–0.86, *p*<0.0001) periods. There were fewer births during the 2020 epoch than during the 2019 epoch (0.94, 0.88–1.00, *p*=0.050); however, this difference was significant only for the lockdown period (0.89, 0.81–0.98, *p*=0.020 for lockdown vs 0.99, 0.90–1.09, *p*=0.883 for pre-lockdown).

Our findings suggest that the observed rise in stillbirths<sup>1</sup> could be due to reduced care-seeking. A possible explanation for the greater fall in triage attendance (19%) than in births (6%) is that women might have perceived triage attendance as avoidable, whereas obviously labour and birth are not. However, it is possible that a small percentage of women opted for home deliveries or delivery in a private health-care setting, which would explain the slight decrease in birth rates.

Our findings are consistent with the increase in deaths and reduction in

care-seeking observed in the general UK population during the COVID-19 pandemic.<sup>5,6</sup> However, the absence of data from years before 2019 limits the model's capability to capture seasonality. We cannot rule out that the observed trend was present before the beginning of the pandemic.

We believe there is an urgent need to evaluate maternity service delivery, care-seeking, and pregnancy outcomes nationally, so as to plan for both immediate post-pandemic care and future health system shocks.

We declare no competing interests.

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See Online for appendix