

Background

- Marked ethnic inequalities in maternal and perinatal outcomes before and during pandemic (1,2,3)
- Substantial and heterogenous changes to maternity services (4)

Objective

To understand how existing ethnic inequalities in maternal and perinatal care and outcomes in England have been impacted by the COVID-19 pandemic.

Methods

Retrospective cohort study using Hospital Episode Statistics (HES) data.

Incidence of maternal and neonatal adverse outcome composite indicators were compared by ethnic group between women giving birth and their babies in three epochs: pre-pandemic (01.03.2018-28.02.2020), initial lockdown (01.03.2020-30.06.2020) and ongoing pandemic (01.07.2020-28.02.2021).

Maternal Composite Indicator*

- Emergency caesarean section
- Obstetric anal sphincter injuries (OASI)
- Hysterectomy
- Sepsis during labour and delivery, or in the puerperium
- Major complications of anaesthesia
- Prolonged stay in hospital (> 3 days)



Perinatal Composite Indicator*

- Stillbirth
- Preterm birth
- Small for gestational age
- Hypoxic Ischemic Encephalopathy (HIE)
- Neonatal death
- Prolonged stay in hospital (> 3 days)

*Outcome selection - Literature review + Women's Reference Group

Poisson regression was used to calculate rate ratios, adjusted for maternal and neonatal characteristics.

Results

1,544,290 maternal and 1,251,649 neonatal records were included. 77.0% of maternal records and 73.0% of neonatal had ethnicity recorded as white.

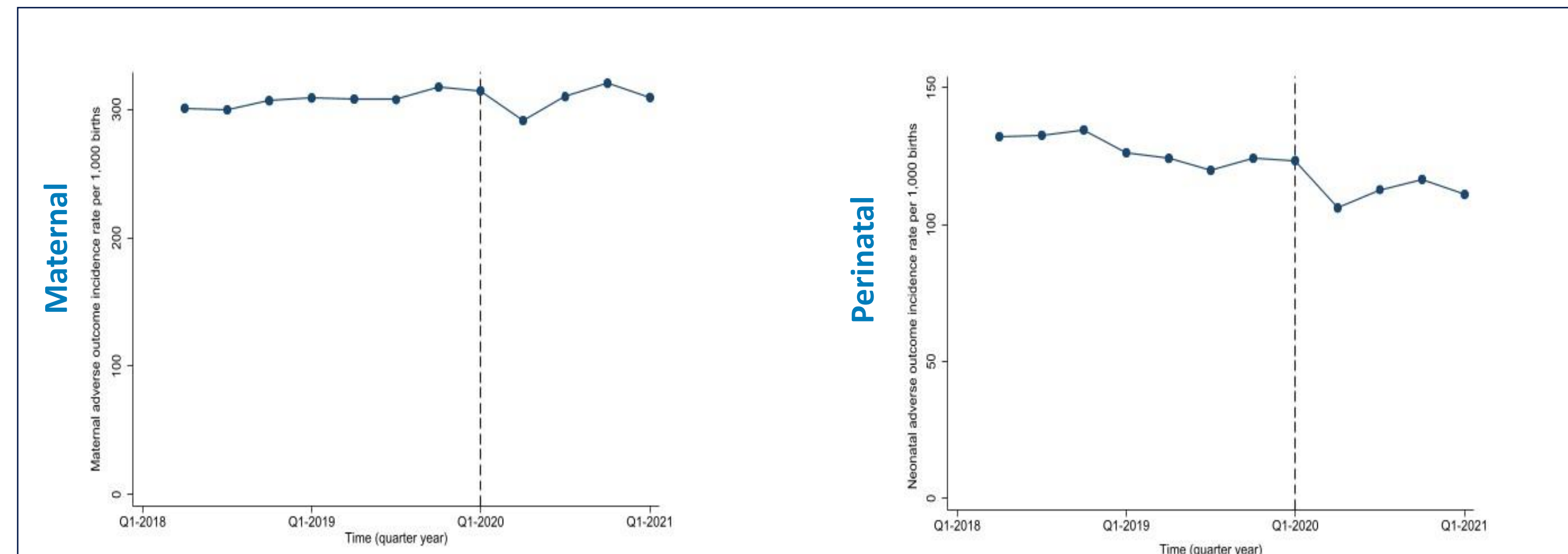


Figure 1. Changes in adverse outcomes over time

The incidence of the maternal adverse outcome was 308.0 per 1000 births pre-pandemic, 291.0 in initial lockdown (RR 0.93 (95%CI 0.92-0.94) and 313.2 (RR 1.00 (0.99-1.01)) in ongoing pandemic.

The incidence of perinatal adverse outcome was 127.4 per 1000 births pre-pandemic, 106.2 in initial lockdown (RR 0.83 (0.82-0.85)) and 113.5 in ongoing pandemic (RR 0.90 (0.88-0.91)).

References

- (1) Knight M, et al. Saving Lives, Improving Mothers' Care Core Report - Lessons learned to inform maternity care from the UK and Ireland Confidential Enquiries into Maternal Deaths and Morbidity 2018-20. Oxford 2022.
- (2) Draper ES, et al. MBRRACE-UK Perinatal Mortality Surveillance Report, UK Perinatal Deaths for Births from January to December 2020. Leicester. 2022.
- (3) Jardine et al. Adverse pregnancy outcomes attributable to socioeconomic and ethnic inequalities in England: a national cohort study. The Lancet 2021
- (4) Jardine, J, Relph, S et al. Maternity services in the UK during the coronavirus disease 2019 pandemic: a national survey of modifications to standard care. BJOG 2021

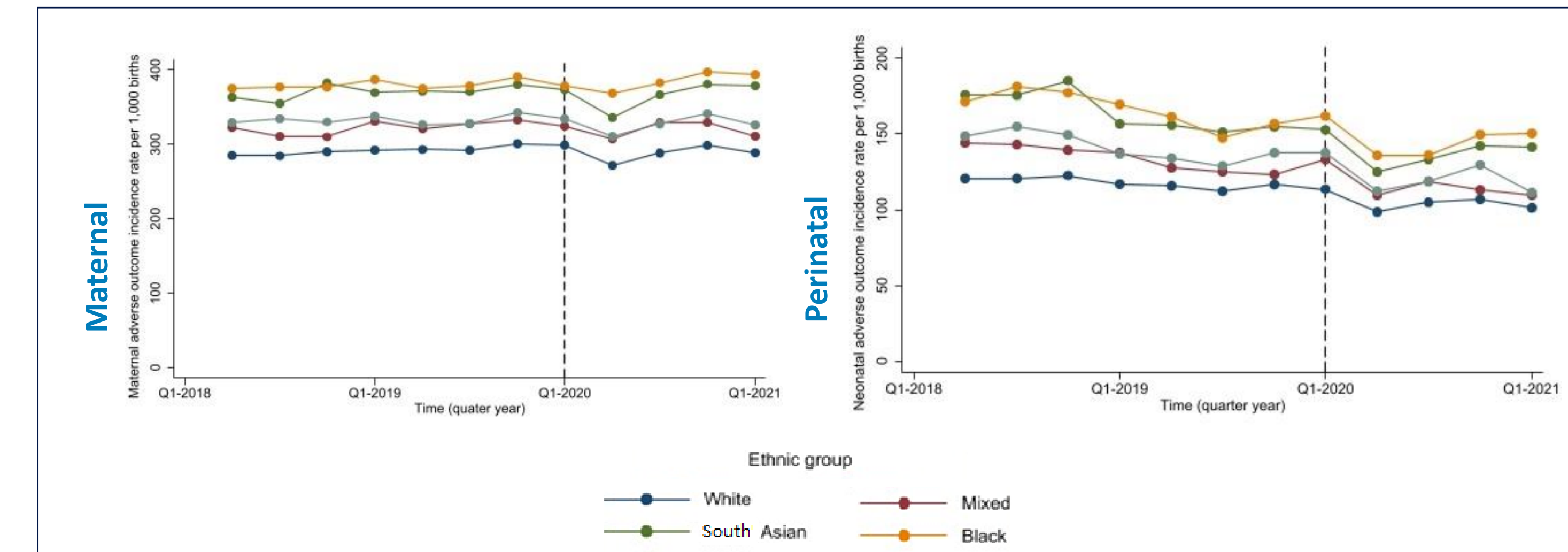


Figure 2. Changes in adverse outcomes over time by ethnic group

All interaction terms were non-significant (95% CI crossed 1) indicating that the change in outcomes in each period was similar across ethnic groups, except for perinatal outcomes for South Asian babies, where incidence was lower in initial lockdown period (RR 0.94 (0.90-0.98)).

Conclusions

Despite an overall fall in adverse outcomes in the initial period of the COVID-19 pandemic in England, existing ethnic inequalities in maternal and perinatal outcomes were maintained.

Following the initial fall in adverse outcomes, these began to rise again. This is hypothesised to be due to additional stresses on the healthcare system due to staff absence, fatigue and burnout; further waves of COVID-19; and restarting of routine activity along with other unmeasured (e.g. environmental) factors.

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