COVID-19 is known to disproportionately affect ethnic minorities in number of settings. This phenomenon has also been reported in the UK where the black, Asian and minority ethnic (BAME) group has adverse health outcomes in terms of number of both cases and mortality rates when compared to the white local population. This trend is also observed among the BAME staff working in the National Health Service. Number of plausible explanations and the importance of various approaches including social-determinants approach is pointed out. This pandemic has re-ignited the debate on social inequalities, issues around social deprivation and health inequalities within the UK. This article concludes with some policy recommendations.

Keywords
BAME Group, COVID-19, Ethnic minorities, National Health Service, United Kingdom

Since the start of this pandemic, it has been evident that COVID-19 is not unbiased and has shown tendencies to discriminate. In early days of the pandemic, it was clear that it disproportionately affected males as compared to females. Similarly, elderly population had significantly higher reported mortality compared to the younger population (Verity et al., 2020). However, more recently, its tendency to disproportionately affect ethnic groups, who tend to have adverse health outcomes, has been observed in a number of countries. For example, in the USA, both the infection rate and death rate are much higher for predominantly black counties than that in predominantly white counties (Yancy, 2020). Similarly, Norway and Finland have experienced much larger number of cases in their Somali populations.
It appears that the UK is no exception to this trend and may, in fact, be experiencing an exaggerated adverse impact of COVID-19 on its black, Asian and minority ethnic (BAME) group.

A study in the UK found that individuals belonging to black and south Asian communities were more likely to have infection with a relative risk (RR) of 4.0 and 2.1, respectively, compared to the White British (Niedzwiedz et al., 2020). This observation is valid not just for new infection and number of cases but also holds true for the deaths observed due to COVID-19. Number of studies have observed that individuals belonging to BAME group were more likely to die from COVID-19 than the local British population. A study from University College London (UCL), reported that the standardised mortality ratio (SMR) was two to three times higher for BAME population when compared to the general population (Aldridge et al., 2020). In addition, data from the Office of National Statistics (ONS) also confirm these findings. They observed that blacks and Bangladeshis are over 4 and 1.6 times more likely to die from a COVID-19 than the local white population (Raffray, 2020). In addition, intensive care audit data also reveals an alarming picture. Although BAME constitute 17 per cent of the UK population, patients admitted to intensive care units (ICUs) in the UK belonging to BAME group was as high as 34 (Intensive Care National Audit and Research Centre, 2020).

Unfortunately, this trend is also observed among staff working in the National Health Service (NHS). Over 50 per cent of all deaths reported within the NHS are from health workers born outside the UK, who represent less than 18 per cent of the NHS health workforce. In fact, the first 11 deaths reported among doctors working in the NHS, all belonged to BAME group (Kirby, 2020). A study analysing deaths among NHS staff concluded that disproportionately high rate of death as a result of COVID-19 was observed among BAME staff working in the NHS. This study found that although BAME doctors constitute only 44 per cent of the total doctors working in the NHS, 95 per cent of total COVID-19 deaths among doctors were observed among this group. Similarly, 64 per cent of all deaths among nurses occurred among BAME nurses who constitute only 20 per cent of nursing workforce (Cook et al., 2020). Not surprisingly, British Medical Association (BMA) survey found that BAME doctors are less likely to raise concerns around safety and are more likely to work with inadequate protection (Valdes, 2020). Many healthcare workers have bravely provided services without adequate protective equipment in spite of obvious risk to themselves and their families. Government of the UK has been criticised for the lack of personal protective equipment (PPE) for its health staff elsewhere (Bhatia et al. 2020).

Although the exact reasons why COVID-19 disproportionately affects BAME population are not clear, there could be number of plausible explanations. Besides genetics, co-morbidities such as diabetes and hypertension could be important risk factors that may aggravate the health outcomes. However, such bio-medical approaches to explaining the impact of COVID-19 on BAME population may be narrow, partial and ineffective. Similarly, behavioural approaches may be able to explain the role of the Individual and household factors that may increase the risk of COVID-19, yet the explanations for high BAME deaths may lie beyond these...
in terms of broader political, structural and economic factors that may be more important. Broader, social-determinants approach may be more useful in explaining why COVID-19 disproportionately impacts BAME. Ecological models that link up multiple levels of influence, namely interpersonal, institutional, community and public policy may be more useful in explaining the factors contributing to this potentially avoidable deaths due to COVID-19 and thus guiding policy interventions.

With disproportionate deaths among BAME, this pandemic has re-ignited the debate on social inequalities, issues around social deprivation and health inequalities. Policymakers and NHS England have been debating on the impact of COVID-19 on BAME group and the actions that need to be taken to minimise the risk of death among this group. In addition, ensuring adequate PPE and safe working environment to key workers in the health and social sector is extremely crucial.

With decentralised systems, policymakers in the UK must ensure that any response to COVID-19 does not result in increasing existing social inequalities. As the UK eases social distancing measures, in order to stimulate its economy, further outbreaks of COVID-19 are highly likely. Lessons must be learnt from this experience, and policymakers should ensure that BAME group is not disproportionately affected in subsequent waves.

Further research needs to be undertaken to understand why BAME ethnic groups, in general, have adverse health outcomes and more specifically among health workers from ethnic minority groups. The recommendations of the report of The Commission on Social Determinants of Health (WHO, 2008) in terms of (a) improving daily living and working conditions, (b) tackling inequitable distribution of power, money and resources and (c) measuring the problem and assessing impact may be useful in the context. Coronavirus may be unbiased but its impact in terms of adverse health outcomes among BAME is not!

**Declaration of Conflicting Interests**
The author declared no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

**Funding**
The author received no financial support for the research, authorship and/or publication of this article.

**ORCID iD**
Mrigesh Bhatia https://orcid.org/0000-0001-7947-5209

**References**
Aldridge, R., Lewer, D., Katikireddi, S., Mathur, R., Pathak, N., Burns, R., Fragaszy, E., Johnson, A., Devakumar, D., Abubakar, I., & Hayward, A. (2020). Black, Asian and minority ethnic groups in England are at increased risk of death from COVID-19: Indirect standardisation of NHS mortality data. *Welcome Open Research, 5*, 88.
Bhatia, M., Bhatia, C., & Bhatia, V. (2020). COVID-19 war: United Kingdom’s strategy [Manuscript submitted for publication].

Cook, T., Kursumovic, E., & Lennane, S. (2020). Exclusive: Deaths of NHS staff from COVID-19 analysed. Health Service Journal. https://www.hsj.co.uk/exclusive-deaths-of-nhs-staff-from-COVID-19-analed/7027471.article

Intensive Care National Audit and Research Centre (ICNARC). (2020). COVID-19 report. https://www.icnarc.org/Our-Audit/Audits/Cmp/Reports

Kirby, T. (2020, May 8). Evidence mounts on the disproportionate effect of COVID-19 on ethnic minorities. The Lancet Respiratory. https://doi.org/10.1016/S1473-3099(20)30378-9

Masri, L. (2020). COVID-19 takes unequal toll on immigrants in Nordic region. https://uk.reuters.com/article/uk-health-coronavirus-norway-immigrants/Covid-19-takes-unequal-toll-on-immigrants-in-nordic-region-idUKKCN2260Y2

Niedzwiedz, C. L., O’Donnell, C. A., Jani, B. D., Demou, E., Ho, F. K., Celis-Morales, C., Nicholl, B. I., Mair, F., Welsh, P., Sattar, N., Pell, J., & Katikireddi, S. V. (2020). Ethnic and socioeconomic differences in SARS-CoV-2 infection: Prospective cohort study using UK Biobank. https://doi.org/10.1101/2020.04.22.20075663

Raffray, N. (2020). Coronavirus: Black, Asian and ethnic minorities ‘disproportionately’ affected by COVID-19 deaths according to ONS. Kilburn Times. https://www.kilburntimes.co.uk/news/health/coronavirus-non-whites-at-greater-risk-of-Covid-1-6656281

Valdes, A. (2020). Coronavirus: BAME deaths urgently need to be understood, including any potential genetic component. The Conversation. https://theconversation.com/coronavirus-bame-deaths-urgently-need-to-be-understood-including-any-potential-genetic-component-138400

Verity, R., Okell, L. C., Dorigatti, I., Winskill, P., Whittaker, C., Imai, N., Cuomo-Dannenburg, G., Thompson, H., Walker, P. G. T., Fu, H., Dighe, A., Griffin, J. T., Baguelin, M., Bhatia, S., Boonyasiri, A., Cori, A., Cucunubá, Z., FitzJohn, R., Gaythorpe, K., Green, W., Hamlet, A., Hinsley, W., Laydon, D., Nedjati-Gilani, G., Riley, S., Eslsand, S. van, Volz, E., Wang, H., Wang, Y., Xi, X., Donnelly, C. A., Ghani, A. C., & Ferguson, N. M. (2020). Estimates of the severity of coronavirus disease 2019: a model-based analysis. The Lancet Infectious Diseases, 20(6), e629–e147.

Yancy, C. W. (2020). COVID-19 and African Americans. JAMA, 323(19), 1891.

WHO. (2008). Commission on Social Determinants of Health: Final report. https://www.who.int/social_determinants/thecommission/finalreport/en/.