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CSAG Briefing Paper

Ethnicity and COVID-19 cases and deaths in Bradford district	**Date: 12.04.20** **Authors: J West, G Santorelli, B Kelly (on behalf of CSAG)**

Background

Over recent weeks anecdotal reports and some data have started to emerge that suggest a greater incidence of COVID-19 cases among BME groups. This is especially important for the Bradford District which has a large Pakistani community representing around one fifth of the population.

Emerging data

ICNARC: Reports data from patients admitted to adult ICUs in England, Wales and Northern Ireland. The most recent report was released on 10th April 2020[1] and includes data for 3883 patients admitted to 229 units. Ethnicity was known for 3370 confirmed cases of which 2236 were White British, 486 Asian, 402 Black and 246 Other/Mixed. There has been some concern that BME groups seem to be overrepresented in the ICNARC data, when they represent just 10% of the national population of England and Wales. It is important to note that much of the ICNARC data at this stage has been reported from London and other densely populated areas where we know there are higher proportions of BME residents than the national population estimates. For example, 36% of Londoners identify as BME[2] so at this time these figures are probably consistent with the local demographics of the reporting ICUs. What currently looks like an overestimation of BME groups may start to align more with national population demographics as disease becomes more widespread and more data from other areas contributes to the ICNARC data set.

International: Reports from the US suggest markedly higher mortality among Black populations. These are anecdotal or media reports and given the social and demographic inequalities in the US, may be mostly explained by disadvantage and poor health care in these groups. Estimates so far report 70% of recorded deaths in Chicago were of black ethnicity but they represent just 29% of the population[3]; in Michegan 40 % of deaths were black residents but as an ethnic group they represent 14% of the population[4]; and in New York the highest incidence of cases so far are in zip code areas with the highest proportion of BME residents and the most economic disadvantage.[5]

Local context

1. **Are South Asian communities in Bradford more at risk of infection?**

- *Social economic*: in the UK ethnicity is associated with social economic disadvantage and it can be difficult to disentangle the effects of disadvantage from the effects of ethnicity. South Asian populations are more likely to experience poverty, live in disadvantaged areas, and be in low paid employment.[6] We don't yet know the impact of disadvantage but it is likely to increase vulnerability.
- *Cultural:* South Asian communities often live in inter-generational and/or overcrowded households[7,8] which can make social distancing and social isolation more difficult.
- *Bradford data:* it is difficult to say at this stage if a higher number of South Asian individuals have been infected as testing remains mostly confined to hospitalised patients and the numbers whilst increasing, remain small for any meaningful analyses. The data so far show that South Asians are overrepresented among those testing positive proportionate to their representation in Bradford District's population (figure 1). As this is BTHFT data, this may in part be explained by South Asian communities living more centrally and nearer the BTHFT hospital site, details of hospital referral or presentation are not available. Data for positive tests (n=265) so far are presented in table 1.

Figure 1 Probability of testing positive by ethnic group proportionate to their representation in Bradford District's population

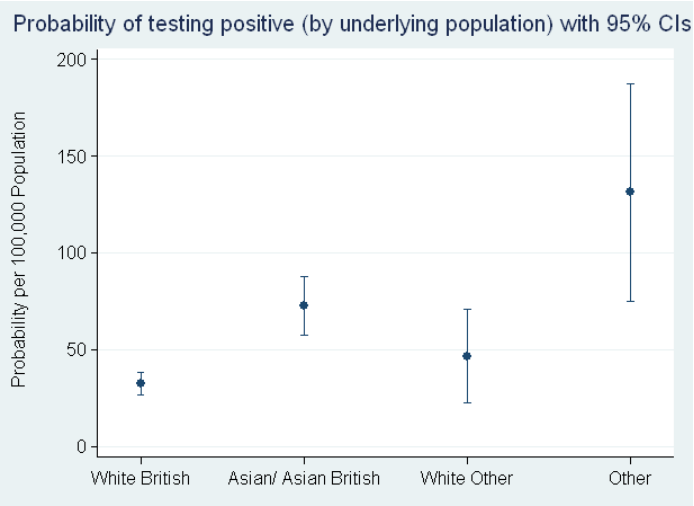


Table 1 Number of positive tests at BTHFT by ethnic group n (%)	
Ethnic group	***Positive Tests***
White: British	119 (45)
Asian/Asian British	87 (33)
White: Other	14 (5)
Other	45 (17)
Total	265 (100)

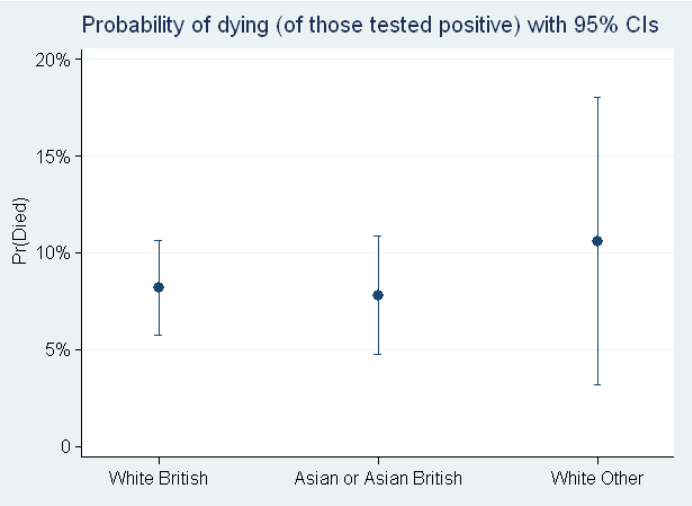
2. **Are South Asian communities in Bradford more likely to experience severe disease and require hospitalisation and critical care?**

- *Co-morbidities:* South Asian adults have on average greater waist circumference and a markedly higher risk of diabetes and cardiovascular disease which they experience at a younger age and lower BMI than White British individuals.[9] This is important to COVID-19 outcomes as data from Wuhan show that around 75% of those who died had 1 or more comorbidities.[10]
- *Healthy lifestyle*: South Asian adults are less physically active compared to White British adults[11] but we know that being physically active can support general health, healthy weight, and has been associated with improving immune function.[12]
- *Bradford data*: The data we have so far from BTHFT (n=42) suggests that there is no significant ethnic difference in COVID-19 mortality in Bradford. It is important to note that this is currently based on small numbers (see table 2 and figure 2).

Table 2 Mortality in those patients testing positive by ethnic group

Ethnic group	Positive test	Died	Died %	Low 95% CI	High 95% CI
White British	119	19	16.0%	9.4%	22.5%
Asian/ Asian British	87	16	18.4%	10.3%	26.5%
White Other	14	2	14.3%	-4.0%	32.6%
Other	21	1	4.8%	-4.3%	13.9%
Missing ethnicity	*24*	*4*	16.7%	0.6%	32.7%
Total	265	42	15.8%	11.4%	20.3%

Figure 2 Probability of dying for patients who have tested positive



Ongoing data collection and analyses

- The data above will be updated in line with BTHFT updates
- We are following up opportunities to access data to estimate community infection (from TPP, PHE)
- Further analyses will include exploring whether COVID deaths are just compressing the normal trend that we would ordinarily expect to see i.e. whether it increases an individual's short-term risk by a common multiplicative factor, whatever their current baseline risk. In South Asians we know that this baseline risk is likely to be higher than that of White British individuals.

References

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