Expert Report for the UK Covid-19 Public Inquiry

Module 2: Ethnicity, Inequality and Structural Racism

Professor James Nazroo and Professor Laia Bécares

About the authors

James Nazroo (MB.BS PhD) is a Fellow of the Academy of Social Sciences (FAcSS), a Fellow of the British Academy (FBA) and Professor of Sociology at the University of Manchester. Previously he was Professor of Medical Sociology at University College London. For more than thirty years he has conducted research on issues of inequality, social justice, and health, with a focus on ethnicity/race, ageing, gender, and the interrelationships between these. He is founding and Deputy Director of the ESRC funded research Centre of Dynamics of Ethnicity (CoDE), was co-PI of the Synergi Collaborative Centre, which investigated ethnic inequalities in severe mental illness, was PI of the fRaill programme, an interdisciplinary study of inequalities in later life, is co-PI of the English Longitudinal Study of Ageing, and is founding and co-Director of the interdisciplinary Manchester Institute for Collaborative Research on Ageing (MICRA). He is a member of the Governing Board of the NHS Race and Health Observatory and co-Chair of its Academic Reference Group.

Laia Bécares (BA, MPH, PhD) is Professor of Social Science and Health, Department of Global Health and Social Medicine, Faculty of Social Science and Public Policy, King's College London. She has researched and published on the role of structural and societal determinants in leading to health inequities for over 20 years. This includes examining the unequal impact of the COVID-19 pandemic on LGBTQ+ populations and on minoritised ethnic groups. Her research has attracted funding by The Nuffield Foundation, The Health Foundation, and the ESRC. She serves as a member of the Academic Reference Group of the NHS Race and Health Observatory.

Author statement

I confirm that this is my own work and that the facts stated in the report are within my own knowledge. I understand my duty to provide independent evidence and have complied with that duty. I confirm that I have made clear which facts and matters referred to in this report are within my own knowledge and which are not. Those that are within my own knowledge I confirm to be true. The opinions I have expressed represent my true and complete professional opinions on the matters to which they refer.

Professor James Nazroo — *15th September 2023*

Professor Laia Bécares — *15th September, 2023*

Table of contents

Preamble

1. In this report we describe ethnic inequalities in health, social and economic factors that existed, and had been extensively documented, prior to January 2020. We define and discuss racism, and detail how ethnic inequalities are the result of this underlying structural cause.

2. It is noteworthy that much of the evidence we describe in the report was brought together in 2018 by a Public Health England report, titled 'Local action on health inequalities: Understanding and reducing ethnic inequalities in health' (PHE, 2018), and by the Cabinet Office Race Disparity Unit prior to the Covid-19 pandemic (Cabinet Office, 2018).

3. Race equality legislation is similar in England, Wales, and Scotland with primary legislation of public equality duties set by the Equality Act 2010, and some equality functions devolved to the Scottish Parliament and Welsh Assembly. In Scotland, the Scotland Act 1998 gave the Scottish Parliament power to encourage equal opportunities and the power to impose duties on Scottish public authorities, and while there is a 'Scottish approach' underway, it is not yet necessarily evident in the area of race equality policy (Meer, 2020). In Wales, the Welsh Assembly has a unique legal obligation included in the Government of Wales Act of 1998 to have due regard to the principle that there should be equality of opportunity for all in relation to all devolved functions. Northern Ireland differs from Great Britain in its equality obligations, which are legally implemented in Section 75 of the Northern Ireland Act 1998. Although Northern Ireland once led the way in terms of equality legislation, with equality being the cornerstone of the Northern Ireland peace settlement (McLaughlin, 2003), the introduction of the Equality Act 2010 in Great Britain has resulted in Northern Ireland lagging behind in terms of equality legislation (Devine et al., 2021).

4. Importantly for this report, despite some differences in legislation across nations, processes of racialisation and racism are equally relevant across England, Wales, Scotland, and Northern Ireland – there is no evidence to suggest that they operate differently in the different nations. Here we present evidence mainly from England due to the availability and coverage of the datasets, but we note that ethnic minority populations are smaller and more geographically concentrated in Scotland and Wales, and are very small in Northern Ireland (NISRA, 2022, National Statistics, 2022, Smith and Simpson, 2015), which can have implications for the extent of ethnic inequalities.

5. There may be differences in the prevalence of some outcomes and the magnitude of the inequalities across the nations of the United Kingdom. However, given that processes of racialisation and racism, and the patterning of ethnic inequalities, are as equally applicable to Scotland, Northern Ireland and Wales as they are to England, there is no evidence to suggest that the implications of these pre-existent ethnic inequalities for the Covid-19 pandemic would be different across the UK nations.

6. The evidence that we draw upon is in some cases a decade or more old. This in part reflects the timeframes over which academic research operates. However, it also reflects

a lack of investment over the last ten years, across all four nations of the UK, in research on ethnicity and ethnic inequalities. As we point out later, the last Health Survey for England to over-sample ethnic minority people was in 2004. While the Department for Communities and Local Government Citizenship Survey, which oversampled ethnic minority people and has been a key source of data on identity, community and experiences of racism and discrimination, had its final round of funding in 2011. The Scottish Household Survey includes some measures on harassment and discrimination due to ethnicity and religion, but the numbers of from ethnic minority respondents in any one year are too small for meaningful analyses. The primary contemporary sources for information on these issues are the Census, which was conducted in 2021 (in 2022 for Scotland), so after the Covid-19 pandemic began, and the Economic and Social Research Council funded UK Longitudinal Household Survey (also known as Understanding Society, which captures data from England, Wales, Scotland, and Northern Ireland). This means that some of the evidence used in the report is quite dated. However, we illustrate throughout the report how that evidence remains relevant for an understanding of contemporary inequalities and, consequently for policy development.

7. It should be noted that in this report we are not consistent in the terminology that we use to describe particular ethnic categories. This reflects inconsistent approaches to categorising ethnicity that occur in the evidence that we cite. This does not relate only to research papers, but also to administrative data. For example, ethnic categorisations used in the Census have evolved from the 1991 Census to the 2001 Census, again from 2001 to 2011 and again from 2011 to 2021. Throughout this report we use the terminology that is present in the evidence that we cite.

8. We conclude by identifying missed opportunities that resulted from a ‘colour-blind’ approach undertaken by core political and administrative decision-makers who disregarded existing economic, social and health vulnerabilities experienced by ethnic minority groups. The 2018 Public Health England report clearly stated the need to explicitly consider ethnicity within health inequalities work, cautioning that avoiding this could produce poor health outcomes and ineffective, or even harmful, interventions. Although the report originated from the Health Equity Unit within Public Health England, anti-racist approaches that explicitly consider ethnicity and the wider determinants of ethnic inequalities are applicable across nations. We highlight evidence on ethnic inequalities that should have been considered by decision-makers in their understanding of the unequal impacts of Covid-19 infection for ethnic minority groups, and of the unequal impacts of their interventions to control the pandemic.

Topic 1: Definitions

9. At the outset we need to define what we mean by ethnicity and race, and how this is reflected in the classification systems used to describe the ethnic patterning of outcomes. This then leads to a consideration of what we mean when we use the terms racism and structural racism.

10. Ethnicity can be described as a form of collective identity that draws on notions of ancestry, cultural commonality, and geographical origins; while race includes the notion of shared physical features – most particularly represented through skin colour.

    10.1. The boundaries of ethnic and race groups are, therefore, represented by markers – a specific migration history, language, religion, or more generally, 'culture', and phenotype or appearance.

    10.2. In practice this means that differences in combinations of migration history, culture and appearance (phenotype) that are considered socially and politically significant are named and through this naming ethnic groups that are considered significant are constructed. Although ethnic and race categories are social constructions, they carry real meaning and therefore have real consequences for people's health, social, and economic outcomes.

    10.3. It is important to note that the significance and the social meaning of an ethnic category reflects how identities are understood and valued by society at large. This is influenced by, and reflects, historical and contemporary contexts: economic, cultural, legal, political and symbolic. Processes of attaching stereotypes and values to different ethnic and race groups generate a social order – where constructed ethnic and race characteristics are perceived to be inherent to groups and the individuals within them, and the groups are thereby hierarchically ordered according to how such characteristics are valued.

11. Racism draws on an ideology where physical difference is linked to cultural and social difference. This allows race and ethnic groups to be identified, to be given meaning and value, and to be placed on a hierarchical scale – a process described as racialisation (Hughey and Jackson, 2017). This then allows for the subordination, marginalisation and exclusion of those considered to be inferior (Emirbayer and Desmond, 2015, Golash-Boza, 2015).

12. Inequalities are a result of these processes of racism and racialisation. Inequalities do not arise from the inherent properties of race and ethnic groups, rather they are a result of the historically embedded and culturally and politically shaped meanings ascribed to race and ethnic identities, and the resulting access to and distribution of privileges and resources.

13. Racism, then, serves to marginalise and inferiorise groups on the basis of phenotypic, cultural or symbolic characteristics, so on the basis of their ethnicity, and to unfairly

advantage White ‘majority’ people (Paradies et al., 2015a). Racism leads to negative prejudice, stereotyping, and discrimination (Williams and Mohammed, 2013).

13.1. It is important to understand how racism shapes people’s lives. To do this, we consider it useful to examine how racism operates at three levels – structural racism shaping access to resources; institutional racism shaping treatment within organisations and institutions; and interpersonal racism, shaping encounters between individuals (Nazroo et al., 2020).

13.2. Structural racism is reflected in disadvantaged access to physical, economic, political, social and cultural resources, resulting in, for example, deep and persistent socio-economic inequalities. This also has cultural and ideological dimensions, the justification of inequality through the stereotypes of and values attached to others.

13.3. Institutional racism is reflected in routine processes and procedures within institutional settings that translate into actions that negatively shape the experiences of people from racialised ethnic groups.

13.4. Interpersonal racism refers to the everyday encounters of racism experienced by people from ethnic minority groups, ranging from ‘everyday’ slights, through discrimination, to aggression.

13.5. These processes of structural, institutional and interpersonal racism do not operate in isolation, they co-occur and reinforce each other, sequentially leading to deepening inequalities across a person’s life course; inequalities that are carried from one generation to the next.

13.6. Hence, while our discussion of racism centres on structural racism, in places we raise the issues of institutional racism and interpersonal racism.

Topic 2: Ethnic inequalities in health prior to January 2020

14. Here we review evidence on ethnic inequalities in health that had been documented prior to January 2020. The evidence in this area is extensive, so we provide a high-level summary of evidence relevant to the Covid-19 pandemic, while aiming to also represent the complexity of the evidence.

15. Ethnic inequalities in health in the UK are longstanding and persistent; they have been researched and documented for several decades (Bécares, 2015, Erens et al., 2001, Harding and Maxwell, 1997, Marmot et al., 1984, Nazroo, 2001a, Sproston and Mindell, 2006).

16. We note, however, that over the ten years leading up to January 2020 sources of data that could be used to document the nature and patterning of ethnic inequalities in health were less readily available. For example, the last Health Survey for England to over-sample ethnic minority people was in 2004. Underinvestment in data to understand and monitor ethnic inequalities was particularly concerning with regards to ethnic minority older people. Prior to the pandemic, the UK had not collected any survey data specifically on older ethnic minority populations (Bécares et al., 2020).

17. Two years prior to the Covid-19 pandemic Public Health England published a report that focused specifically on ethnic inequalities in health, the drivers of those inequalities, and areas of action to mitigate ethnic inequalities in health (PHE, 2018). We return to that report after reviewing the wider evidence.

18. Assessments of self-reported general health and limiting long-standing illness have repeatedly demonstrated a clear patterning of ethnic inequalities in health (Erens et al., 2001, Nazroo, 2001a, Sproston and Mindell, 2006). For example, in one analysis, compared with the White English group, Bangladeshi people have a more than three times higher risk of saying that their health is fair or bad rather than good, with a figure of more than two times higher for Pakistani people and almost two times higher for Indian and Black Caribbean people (Nazroo, 2001a).

19. Analysis of the 2011 census data also revealed men and women identifying as White Gypsy or Irish Traveller have twice the rate of limiting long-term illness of the White British ground, and at each age they are the ethnic group most likely to have poor health (Bécares, 2015).

20. Ethnic inequalities in health are persistent over time. Analyses of the 1991, 2001 and 2011 Censuses show that Pakistani, Bangladeshi and Black Caribbean groups (and among women, the Indian group) have higher rates of limiting long-term illness than the White ethnic group (Bécares et al., 2015). (Data on ethnic differences in health were collected as part of the 2021 Census in England and Wales, and the 2022 Census in Scotland, but these had not been fully reported on at the time of writing, and were, of course, not available prior to the Covid-19 pandemic),

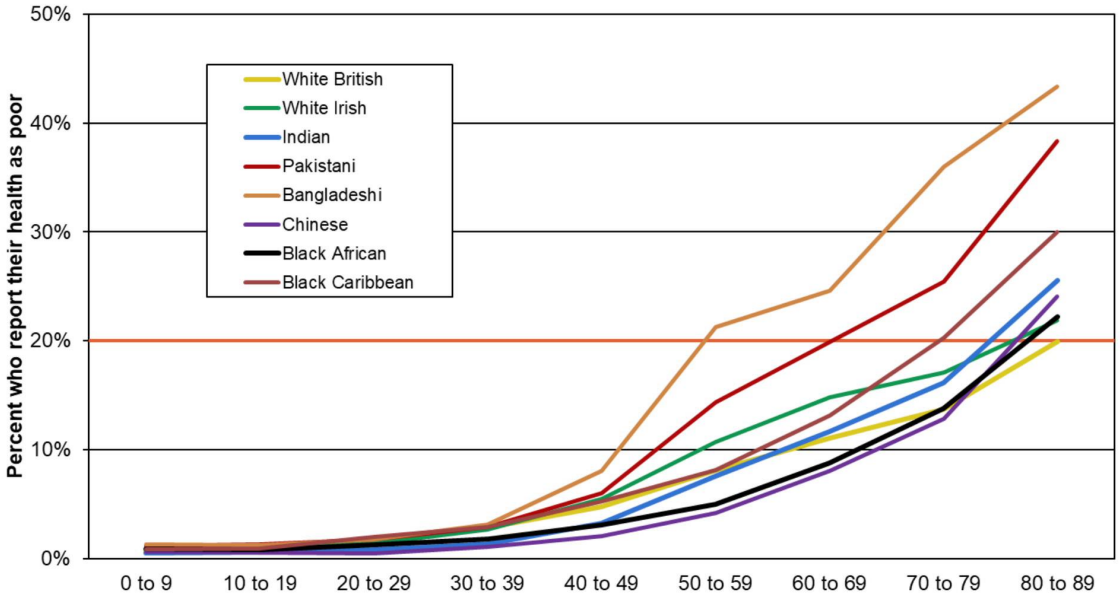
21. Ethnic inequalities in health are most pronounced at older ages. Data from the 2011 Census show that (Bécares et al., 2015):

    - 56% of all women aged 65 or older reported a limiting long-term illness, but over 70% of Pakistani, Bangladeshi and White Gypsy or Irish Traveller women at this age reported a limiting long-term illness. Arab and Indian older women also reported high percentages of limiting long-term illness (66% and 68% respectively).

    - 50% of all men aged 65 or older report a limiting long-term illness, but 69% of Bangladeshi and White Gypsy or Irish Traveller older men report a limiting long-term illness.

22. Figure 1 shows the patterning of fair or poor self-reported health by ethnicity and age, using data from the 2011 UK Census (perhaps the most comprehensive assessment) (Stopforth et al., 2023). Inequalities across ethnic groups begin to emerge in middle adulthood and for three groups – Bangladeshi, Pakistani and Black Caribbean people – become large by early old age and continue to widen for older groups. For example, just over 20% of Bangladeshi people report having fair or poor health in their 50s, while this is the case for almost 20% of Pakistani people in their 60s, for 20% of Caribbean people in their 70s and almost 20% of White British people in their 80s. According to this measure, the health of Bangladeshi people in their 50s is equivalent to that for White British people in their 80s. Indeed, it has been estimated that Bangladeshi, Pakistani and Black Caribbean people have between six and nine fewer years of disability-free life expectancy than do White British people (Wohland et al., 2015). For the other groups included in the graph, inequalities are either small (the Indian and White Irish group), or not present (Black African and Chinese groups).

FIGURE 1. ETHNIC DIFFERENCES IN FAIR OR POOR SELF-REPORTED HEALTH BY AGE – FINDINGS FROM THE 2011 CENSUS



Source: Stopforth et al. (2023).

23. The analysis of self-reported health by ethnicity and age reported in Figure 1 builds on the results of similar analyses conducted more than a decade earlier (Bécares, 2015, Evandrou et al., 2016, Nazroo, 2001a). Our interpretation is that health deterioration, or biological ageing, begins to occur at a much younger age for some ethnic minority groups than for the White British group.

24. Although ethnic inequalities in health expand in mid-life, and worsen as people age, they are also evident in the early stages of the life course. Studies document ethnic inequalities in low birthweight (Kelly et al., 2009), childhood asthma (Panico et al., 2007), and childhood obesity (Martinson et al., 2012).

25. The picture of ethnic inequalities in health becomes more complex when specific disease outcomes are examined, with the extent of the difference in health varying across health conditions as well as across ethnic groups. Nevertheless, analyses of morbidity and mortality data demonstrate higher (though variable) levels of chronic diseases such as diabetes (Erens et al., 2001, Sproston and Mindell, 2006), ischaemic heart disease (Chaturvedi, 2003, Nazroo, 2001b), and hypertension and stroke (Chaturvedi, 2003, Erens et al., 2001, Sproston and Mindell, 2006), among non-White ethnic minority groups in the UK. In contrast, the evidence suggests low rates of cancer diagnosis and cancer-related mortality among non-White ethnic minority groups (Delon et al., 2022; Martins et al., 2022), although this varies by site of cancer (PHE, 2018).

Topic 3: Ethnic inequalities in access to health care services prior to January 2020

26. In this section, we describe ethnic inequalities in access to health and mental health services, as well as inequalities in the care received. Analyses from the 1999 and 2004 Health Survey for England show that people from Black Caribbean, Indian, Pakistani and Bangladeshi ethnic groups were more likely to have used GP services in the previous two weeks than people from White ethnic groups (Nazroo et al., 2009).

27. This is not the case for people who identify as Chinese (Nazroo et al., 2009), and the opposite is the case for White Gypsy or Irish Traveller, who are much less likely to use primary care services. 16% of White Gypsy or Irish Traveller (and 37% among people who travel all year round) are not registered with a GP. They are less likely to be seen by GPs compared to the general population, and are more likely to be seen by health visiting, social care and accident and emergency services (Nandi and Luthra, 2016).

28. A Public Health Report published in 2018 concluded that ethnic minority groups report lower satisfaction with primary and secondary healthcare (PHE, 2018).

29. In maternal and neonatal healthcare, systematic reviews of the evidence have concluded that ethnic minority women experience poor communication with providers, including lack of accessible and high-quality interpreting services, insensitive behaviour, a lack of active listening by providers, and a range of negative interactions, including stereotyping, disrespect, and discrimination (McFadden et al., 2018, Rayment-Jones et al., 2019, Watson and Downe, 2017).

    29.1. Ethnic minority women are over three times more likely to experience a delay in antenatal care when compared with White women (Kapaya et al., 2015). Delaying antenatal services may lead to missed opportunities to detect pregnancy complications, lack of antenatal information and advice, and reduced access to screening tests.

30. There are also ethnic inequalities in the pathways to, and use and outcomes of, mental health services.

31. In relation to severe mental illness, psychoses, ethnic minority people are more likely than White people to experience high rates of admissions involving the police, less likely to be referred by a GP, more likely to be compulsory detained and to experience worse outcomes following treatment (Morgan et al., 2017, Halvorsrud et al., 2018).

32. Ethnic minority people who receive a diagnosis of a mental illness are less likely to be offered talking therapies (for example Cognitive Behavioural Therapy) compared with White people (Das-Munshi et al., 2018).

33. Among young people, studies report ethnic inequalities in referral routes to Child and adolescent mental health services (CAMHS). Analysis of large routine service datasets

show that compared with White young people, Black young people are more likely to be referred through education, mental health services, social care/youth justice, relative to primary care. Asian young people are more likely to be referred through education, social care/youth justice, and less likely through mental health services or to be self-referred (Edbrooke-Childs and Patalay, 2019).

Topic 4: Ethnic inequalities in social and economic resources prior to January 2020

31. In this section we describe the social and economic inequalities that ethnic minority people faced as we entered the Covid-19, and which had a strong potential to lead to different outcomes or exacerbate vulnerabilities as a result of the approach taken to control the pandemic.

32. Within the UK, inequalities in social and economic position across ethnic groups are persistent, marked and complex, covering economic activity, employment levels, income, educational outcomes, housing, geographical location, area deprivation, racism and discrimination, citizenship and claims to citizenship (Mirza and Warwick, 2022).(see also: Modood et al., 1997; Jivraj and Simpson, 2015; PHE, 2018 and Byrne et al., 2020).

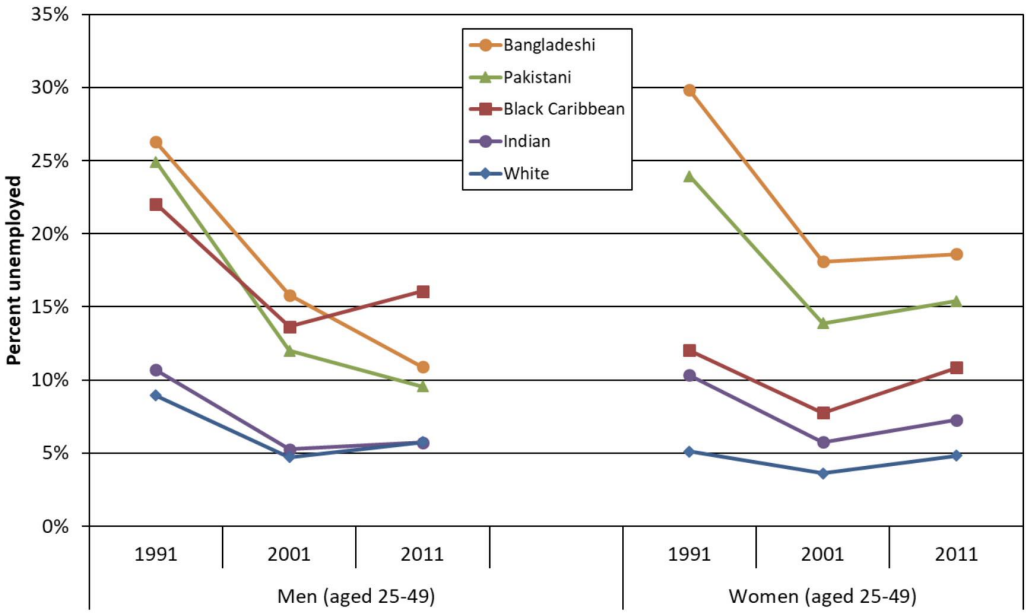
33. Ethnic inequalities accumulate across life courses and across connected generations (Bécares et al., 2015, Stopforth et al., 2023).

34. For example, the persistence of race/ethnic inequalities in risk of unemployment is revealed by an examination of UK census data over the periods 1991, 2001 and 2011, which provide a robust and comprehensive assessment of unemployment rates over this 20-year period (Kapadia et al., 2015). As illustrated by Figure 2, Black Caribbean men and women have had persistently high levels of unemployment, more than twice as high as the White rate. And while Pakistani and Bangladeshi men and women have seen large falls in unemployment over the period 1991–2011, they continue to have much higher unemployment rates than White men and women, and the fall is mainly a result of a large rise in part-time work. For example, for Bangladeshi men, the part-time employment rate has risen from just over 3% in 1991 to 35% in 2011, a figure that is coupled with a fall, rather than a rise, in full-time employment rates. This part-time employment rate is seven times higher than that for White men (Kapadia et al., 2015). Finally, Figure 2 also shows lower, although persistent, levels of inequality in employment rates for Indian women, and no inequalities for Indian men.

35. The persistence across generations and over time of such employment inequalities within the UK might be unexpected as it should have diminished over time, for a number of reasons. For example, more recent periods have ethnic minority populations with a large proportion of second- and third-generation people. They would be both fluent in English and would have passed through the UK education system. Indeed, over the same period we have seen improvements in educational attainment that were larger for ethnic minority groups than for the White British group, leading to a narrowing and reversal of ethnic inequalities in many education outcomes (Scottish Parliament, 2016; Lymperopoulou and Parameshwaran, 2015). Ethnic minority groups should therefore be less disadvantaged in the employment market than they were in the past. As well as this, the introduction of equality legislation, which has been in place in the UK for more than 50 years and has become stronger over time, might be expected to have diminished the negative outcomes of discrimination. The lack of change in the depth and persistence of

employment inequalities in relation to race/ethnicity is, therefore, surprising and emphasises the difficulties in changing processes that lead to ethnic inequalities. Improvements in some outcomes (in this case, educational attainment) do not necessarily translate into improvements elsewhere (in this case, employment, but also housing and the probability of living in a deprived area), despite the change across cohorts in human capital and the implementation of a range of legislative and equal opportunities processes.

FIGURE 2. PERSISTING ETHNIC INEQUALITIES IN EMPLOYMENT IN THE UK



Source: Kapadia et al. (2015).

36. Ethnic differences also exist in the employment profile of ethnic minority people. They are more likely than the White majority group to be employed in sectors that increase their risk of exposure to an infectious agent, such as in transport and delivery jobs, or working as health care assistants, hospital cleaners, social care workers, and in nursing and medical jobs (Brynin and Longhi, 2015).

37. Ethnic minority people also experience disadvantage with regards to housing; they are more likely than White majority groups to live in overcrowded housing (MHCLG, 2020)), experience household deprivation (de Noronha, 2015), and to be concentrated in the private rented sector, which is associated with increased vulnerability to housing precarity. Housing conditions are likely to be risk factors for detrimental outcomes of both increased infection risk during a pandemic, and of non-pharmaceutical pandemic control measures, such as social distancing and stay at home orders.

    37.1. Housing overcrowding rates are higher for ethnic minority groups than in the White majority group across all countries in the UK. For example, analyses of the English

Housing Survey conducted by The Ministry of Housing, Communities and Local Government show that ethnic minority households were more likely to be overcrowded than White British households in most regions of England. Bangladeshi (24%), Pakistani (18%), Black African (16%), Arab (15%) and Mixed White and Black African (14%) groups had the highest rates of overcrowding (MHCLG, 2020).

37.2. Ethnic minority groups are also more likely than the White majority group to live in household deprivation (indicated by overcrowding, having no central heating, or living with another household). White Gypsy and Irish Traveller households are seven and a half times more likely than White British households to experience housing deprivation. Black African and Bangladeshi households are also more likely than White British households to experience housing deprivation (75% and 63% more likely, respectively) (de Noronha, 2015).

38. Existing evidence also confirmed that ethnic minority groups are more likely than White majority groups to live in deprived neighbourhoods with higher pollution levels. Analysis of the 2011 Census show that more than one in three in the Bangladeshi and Pakistani groups lived in a deprived neighbourhood. This is compared to fewer than one in twelve in the White British group (Jivraj and Khan, 2013). Moreover, neighbourhoods with higher concentrations of ethnic minority residents have higher pollution levels than neighbourhoods with less diverse neighbourhoods, even after taking into account the higher levels of deprivation in these areas (Fecht et al., 2015).

39. Ethnic minority people are also more likely to live in urban areas with reduced access to green space, and the space they do have is of a poorer quality. Wards that are composed mostly of White residents (with less than 2% of the ward population from an ethnic minority group) have six times as many parks as wards where more than 40% of the population are ethnic minority residents (Brown et al., 2010),

40. Some ethnic minority groups are more likely than the general population to experience digital exclusion, once differences in age profiles are taken into account. For example, in 2018 8% of Bangladeshi people reported either never having used the internet or not having used it in the last three months. This compared to less than 2% of those aged 16 to 44 in the general population, less than 4% of those aged 45 to 54, and about 9% of those aged 55 to 64 (ONS, 2019 – note that ONS do not provide age adjusted figures, so the initial ethnic comparison in their report is misleading). This is likely to be particularly relevant during a pandemic where non-pharmaceutical control measures are introduced, such as social distancing and stay at home order, which lead to changes in educational provisions, social connectivity, and employment patterns.

Topic 5: The role of racism

41. In this section we describe how racism leads to the ethnic inequalities in health and socioeconomic outcomes documented under Topics 2 and 4. As discussed in Topic 1, in order to understand how racism impacts on outcomes we consider it useful to examine how it operates at three levels – structural, institutional, and interpersonal.

42. Historical and ongoing **structural racism** means that ethnicity remains strongly associated with social location, status and power, leading to inequalities in access to key economic, physical, political, social and cultural resources (Phillips, 2010; Bailey et al., 2017). This results in deep and persistent socio-economic inequalities, justified through the use of negative, often denigrating, stereotypes attached to members of ethnic minority groups (Emirbayer and Desmond, 2015). The social and economic inequalities consequent on structural racism make a substantial contribution to the ethnic inequalities in health that we have described in Topic 2 (Nazroo, 2001a; Chouhan and Nazroo, 2020).

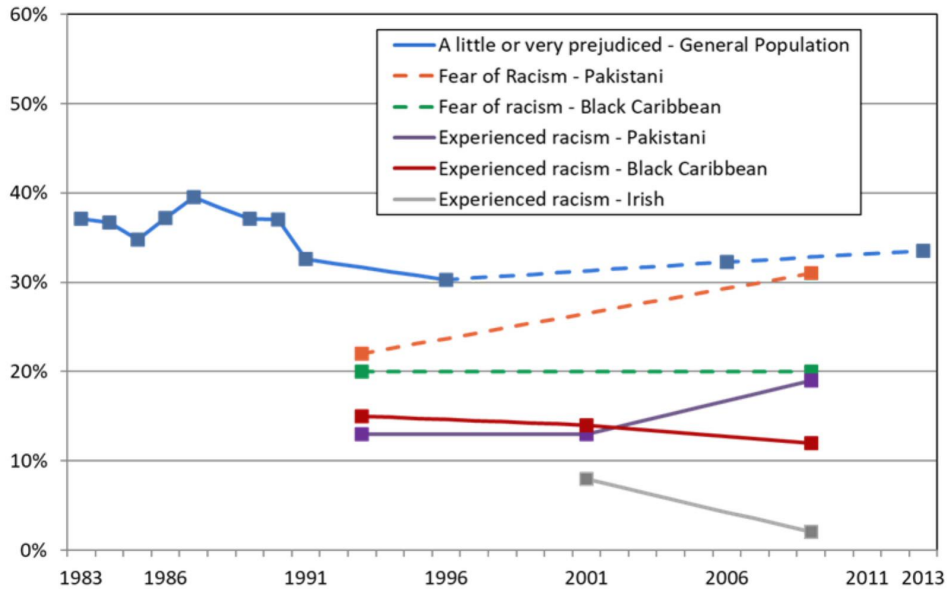
43. **Interpersonal racism** involves the routine expressions of racism and discrimination that occur in everyday encounters. A range of studies have acutely demonstrated that interpersonal experiences of racism and discrimination are central to the everyday lives of race/ethnic minority people (Bécares et al., 2009b, Stevens et al., 2012, Virdee, 1997).

44. Given the diverse and often very subtle forms that interpersonal racism takes, it is extremely difficult to quantify the level of risk faced by race/ethnic minority people (Karlsen and Nazroo, 2006). Nevertheless, the evidence suggests that levels of interpersonal racism have not changed meaningfully over the past 20 years.

45. This lack of change in exposure to racism over time is illustrated by Figure 3, which uses data from a series of cross-sectional surveys, selected because they have similar approaches to measurement and so can be straightforwardly compared. Figure 3 shows that 15% of Black Caribbean people reported experiencing racist abuse, assault or vandalism in 1993–94, compared with 14% in 2000, and 12% in 2008–09 (Karlsen and Nazroo, 2014, Virdee, 1997). In addition, 20% of Black Caribbean people were very, or fairly, worried about being a victim of a racist attack in both 1993–94 and 2008–09. Over the same period, Pakistani people have experienced an increased risk of experiencing racism, and increased levels of being worried about being a victim of a racist attack, while over a shorter period Irish people have experienced a reduction in their risk of experiencing racism (Karlsen and Nazroo, 2014, Virdee, 1997). The differences in the changes in experience for Pakistani and Irish people are indicative of changing processes of racialisation, with a rise in Islamophobia (Elahi and Khan, 2017), and a possible decline in anti-Irish sentiment.

46. Importantly, underlying these experiences is a worrying continuation of prejudice in the majority population within the UK. As Figure 3 shows, this has remained at a consistently high level over the past 30 years with between 30% and 40% of people saying that they are a little or very prejudiced against ethnic minority people (Kelley et al., 2017).

FIGURE 3. TRENDS IN LEVELS OF PREJUDICE AND RACISM OVER TIME



Source: Virdee (1997), Karlsen and Nazroo (2014) and Kelley et al. (2017).

47. It is important to note that interpersonal incidents of racism are not just an attack on individuals, they are also an attack on communities (Virdee, 1997). Racism need not have been experienced personally for it to produce a sense of threat (Bécares et al., 2009b, Karlsen and Nazroo, 2004). As Oakley (1996) points out: 'the distinguishing feature of racial violence and harassment is not simply that it involves members of different racial groups or ethnic groups; it is that the action is racially motivated … Racially motivated behaviour, therefore, is not an attack aimed at a person purely as an individual, but an attack on a member of a category or group.' Indeed, the psychological impact of acts of racism is to reinforce the disempowerment and lack of security of those whose identities have been negatively racialised (Funnell, 2015).

48. There is a large body of evidence demonstrating that both physical and mental health are adversely affected by experiences of racial harassment, fear of experiencing racial harassment, experiences of discrimination, and the belief that there is general prejudice and discrimination against ethnic minority people (Paradies, 2006, Paradies et al., 2015b, Williams and Mohammed, 2013, Williams et al., 2019). Experiences of racism and racial discrimination are negatively associated with hypertension (Williams and Neighbors, 2001, Dolezsar et al., 2014, Karlsen and Nazroo, 2002b), cardiovascular disease (Lewis et al., 2014), risky health behaviours (Pascoe and Smart Richman, 2009), and self-assessed general health (Paradies, 2006, Paradies et al., 2015b, Karlsen and Nazroo, 2002b, Karlsen and Nazroo, 2002a, Harris et al., 2006). Experiences of racism and racial discrimination are associated with negative mental health outcomes, such as psychological distress or depressive symptoms (Bécares and Zhang, 2018, Nandi et al.,

2016, Wallace et al., 2016), and psychosis or severe mental illness (Nazroo et al., 2020, Karlsen and Nazroo, 2002b, Karlsen et al., 2005).

49. These measures of racism and discrimination reflect general perceptions of society as racist, personal threat, and experiences of events that undermine status and identity. Such processes generate biological stress responses which impact on health (Richman and Jonassaint, 2008; Thayer and Kuzawa, 2015). And their effects on health have been found to accumulate across exposure to racism and discrimination in different domains of life, and over time (Wallace et al., 2016).

50. As we describe above, we cannot fully understand the impact of racism on the lives of ethnic minority people without also considering **institutional racism** – even though the phrase is unpopular and misunderstood. As a reminder institutional racism is reflected in routine processes and procedures within institutional settings that translate into actions that negatively shape the experiences of people from racialised ethnic groups.

51. Conceptually, institutional racism has been beset by the challenge of attributing racism to institutions, rather than to individuals (Bradby, 2010). However, by locating institutional racism within a wider framework involving both structural and interpersonal processes, we can see how institutional procedures and practices are produced by actions and choices that operate in the context of pre-existing structural inequalities in access to resource (Phillips, 2010). Indeed, the idea that institutional racism is really a problem of conscious, or unconscious, interpersonal racism ignores the ways in which structural and interpersonal racism penetrate institutions (Emirbayer and Desmond, 2015).

52. Structural conditions of socio-economic disadvantage and interpersonal experiences of racism shape encounters with institutions that have policies and practices that lead to and amplify unequal outcomes – including in health and social care (Nazroo et al., 2020). This is reflected in routine activities, local knowledge, and the setting of relationships and institutional cultures. All of this results in discriminatory policies and practices that have an impact on both staff and the users of services.

Topic 6: The role of cultural and genetic difference

53. Here we discuss why we argue that explanations for ethnic inequalities in health that focus on cultural or genetic differences should be rejected. These explanations, which took hold in the early stages of the Covid-19 pandemic, perpetuate racialised understandings of ethnic inequalities in health, and lead to ineffective interventions focused on individual-level factors, and not on the wider societal causes of ethnic inequalities.

54. As illness and disease are commonly understood to result from biological processes and health behaviours, genetics and culture are often favoured as the explanations for ethnic differences (despite these explanations being un-theorised and un-documented). These conclusions emerge from the move from the simple description of correlations in data between an ethnic group and risk of a specific disease, to seeking an explanation in what it is generally understood to be the nature of membership of an ethnic category. In other words, there is a strong impulse to resort to explanation based on a common sense understanding of a stereotyped ethnic category. So we seek explanations for high rates of a specific disease in the culture or genetic profile of the ethnic categories associated with the higher rate. For example, it becomes easy to speculate on what it is to be South Asian that might lead to a greater risk of heart disease (genetics, diet, and other health behaviours). So ethnic differences in health are seemingly easily understood to be a consequence of supposed biological and cultural differences, which are generalised across all of those who are seen to be members of a particular ethnic minority group. But such explanations, which are based on descriptive categories and everyday interpretations of racialised identities, rather than theory, have rarely been tested. Beyond diseases caused by single gene polymorphisms, evidence for genetic or cultural explanations for ethnic inequalities in health is lacking.

55. This approach to explanation can be traced in research activity, peer reviewed publications, and public health policy and practice. We see this clearly in the typical exclusion of racism from scientific and policy discussions around the coronavirus pandemic, which include un-evidenced approaches that focus on biological/genetic or cultural differences, a line of thinking that we suggest risks taking us back to scientific racism.

56. One clear illustration of this is given by investigations into the role of Vitamin D deficiency (Bhala et al., 2020), a possibility that remained under consideration despite clear evidence to the contrary (Raisi-Estabragh et al., 2020).

57. Another example, which captured the imagination of scientists, practitioners, the media and the public, was the claim that the higher prevalence of the harmful variant of a gene (LZTFL1) in South Asian populations might be an explanation for the high rates of Covid-19 mortality found among South Asian people in the UK (Downes et al, 2021). The authors state: ‘the risk variants at this locus are carried by >60% of individuals with South Asian ancestry (SAS), compared to 15% of European ancestry (EUR) groups, partially explaining the ongoing higher death rate in this population in the UK’. However,

evidence that the 'risk variants' are more common among South Asian people can be found in only one research paper (Zeberg and Pääbo, 2020) and the underlying studies that it uses do not indicate how representative the samples that they study are, so do not provide an accurate estimate of the risk variants' prevalence. In addition, the Downes et al. study (2021) had no direct evidence that this gene increased risk of Covid-19 mortality, because the paper reported on an in-vitro, laboratory, study of mechanisms, rather than an in-vivo study of outcomes. So, while the gene might be associated with a plausible mechanism, it had not been directly associated with increased risk of Covid-19 mortality. Indeed, another study that directly examined the association in the Indian population found that it was not associated with either risk of Covid-19 infection nor mortality (Singh et al., 2021).

58. An important conclusion from these examples is that even papers reporting on the highest quality science often resort to lay conceptualisations of race and ethnicity when framing and interpreting their research

59. Research and funding that support and promote individualised understandings and explorations of ethnic inequalities are barriers to reducing ethnic inequalities because they divert attention, and resources away from activities that focus on understanding, and addressing societal and structural determinants. Further, genetic and cultural explanations for ethnic inequalities are a form of racism denial, as they lead to a minimising (and sometimes denial) of the role of racism in shaping ethnic inequalities in health, social, and economic outcomes.

60. In reflecting on the resort to untheorized (Nazroo, 1998), common-sense, genetic or cultural, explanation, we should ask ourselves the simple question: 'What could possibly be the biological or cultural similarities between an ethnic minority family living in Tower Hamlets, London and another living in Detroit, Michigan, both of whom faced an increased risk of Covid-19 related complications and mortality?'. More likely than having shared genetic and cultural risks, is that they will both have an increased risk of living in disinvested neighbourhoods with high levels of pollution and concentrated poverty, with insecure and underpaid employment, and in overcrowded conditions with substandard levels of housing. Chances are they have had their lives shaped by structural and institutional racism, and have experiences of racial discrimination deeply embedded in their lives. These are the similarities that policy and research efforts should be paying attention to.

Topic 7: Implications of ethnic inequalities for risk of infection and mortality during a pandemic

61. Here we briefly summarise the likely implications of pre-existing ethnic inequalities adverse outcomes in relation to a pandemic.

62. We would anticipate that during a pandemic ethnic minority people would be more at risk of serious illness and mortality due to: pre-existing social and economic inequalities, including the stress generated by experiences of and knowledge of racism; higher levels of chronic disease; and earlier onset of biological ageing.

63. In addition, we note that the employment profile of ethnic minority people is somewhat different to that of White British, as they are more likely to be employed in sectors that increase their risk of exposure to an infectious agent, such as in transport and delivery jobs, or working as health care assistants, hospital cleaners, social care workers, and in nursing and medical jobs (ONS, 2020). Consequently, we anticipate that during a pandemic ethnic minority people would be more at risk of infection.

64. Ethnic minority people are also more likely to live in densely populated urban spaces (Jivraj and Khan, 2013), and, where the option to work at home is not available, to rely on public transport to get to work. Consequently we anticipate that during a pandemic ethnic minority people would be more at risk of infection.

Topic 8: Implications of ethnic inequalities for adverse outcomes resulting from Non-Pharmaceutical Interventions (NPIs).

65. Here we briefly summarise the likely implications of pre-existing ethnic inequalities for adverse consequences of NPIs, notably social distancing and lockdowns.

66. During a pandemic social distancing and 'lockdown' measures are introduced with the intention of reducing on average risk of infection and reducing the impact of the pandemic on the NHS by protecting its capacity to provide care for people who become seriously ill. Such measures are acknowledged to have negative economic, social, psychological and health impacts. However, these negative impacts are judged to be, on average, worth the estimated direct health benefits of NPIs.

67. The situation facing ethnic minority people is on average far more precarious than 'the average', as detailed above, meaning that these measures could be predicted to almost certainly have a more negative impact on ethnic minority people than on White British people, and to further exacerbate existing ethnic inequalities.

68. In relation to social and psychological wellbeing this is likely to occur as a result of poorer quality and overcrowded housing, housing without access to outside space, and poorer access to green space for ethnic minority people.

69. Also relevant to social and psychological wellbeing, social distancing and lockdown measures have a particularly negative impact on those who do not have access to digital devices and high quality broadband, because these can be used to maintain connections with family, friends and community support. This is more likely to be the case for ethnic minority people, because of the cost of devices and connectivity.

70. During periods when physical access to schools and higher education is restricted, a lack of digital connectivity will also amplify dislocation from education, which is, therefore, more likely to be the case for ethnic minority students.

71. In relation to economic wellbeing, harm is likely to occur as a result of employment (including self-employment) in more precarious occupations, where job loss is more likely to happen, and employment in occupations where the option to work from home is not available. As we've described, these circumstances are more likely to be present for ethnic minority people.

72. Financial precariousness and the increased likelihood of infection, of either oneself or a loved one, are likely to lead to increased stress, exacerbating ethnic inequalities in mental health.

73. In relation to health, harms are additionally likely to occur as a result of discontinuity in the clinical management of pre-existing chronic diseases, which are more prevalent in ethnic minority populations.

74. In addition, some of the more punitive dimensions of ‘lockdown’, such as changes in the Mental Health Act and police surveillance, are also likely to have a more adverse impact on those with racialised identities.

Topic 9: Implications of ethnic inequalities for adverse outcomes resulting from clinical interventions

75. Here we briefly summarise the likely implications of pre-existing ethnic inequalities for clinical interventions likely to be implemented during a pandemic resulting from a respiratory virus.

76. We discuss two examples, guidelines for the use of pulse oximetry and the roll out of vaccines. While some of the learning on this became obvious during the Covid-19 pandemic, so our insights might be considered post-hoc, we do believe there was sufficient evidence before the pandemic to predict these likely outcomes.

77. Pulse oximetry assesses the level of oxygen saturation in the blood. In the context of respiratory illness, such as infection with a respiratory virus, the accurate measurement of oxygen saturation provides a valuable indicator of the need for clinical intervention – admission to hospital, closer monitoring and provision of oxygen.

78. The operation of pulse oximeters relies on the transmission of light through the skin. Home pulse oximeters were developed in trials with predominately White people. Evaluations of their performance when used with people with darker skins revealed that they were inaccurate (Emery, 1987; Adler et al., 1998; Bickler et al., 2005, Feiner et al., 2007). Given this evidence, we believe that it is likely that they would be less useful clinical tools to monitor the condition of ethnic minority people – those with darker skin – in the context of a pandemic resulting from a respiratory virus.

79. Pulse oximetry is a particularly valuable indicator for people who are older and, consequently, more at risk of respiratory failure. Given the indicators of earlier onset of biological ageing among ethnic minority populations, we anticipate that using a standardised age cut-off (in the case of the Covid-19 pandemic this was age 65 or older) alongside a measure of oxygen saturation would result in missed opportunities for intervention for vulnerable ethnic minority people.

80. A pandemic resulting from a novel virus might, in the medium term, be managed through vaccination programmes. However, there is some longstanding evidence that ethnic minority people are less likely to engage in vaccination programmes – they are more likely to be ‘vaccine hesitant’ (Pebody et. Al, 2007; Marlow, 2011). The evidence suggests that this is a result of a lack of trust in Government, in the pharmaceutical industry and in public health, in part informed by both historic and recent examples of experimentation on ethnic minority people (Latif, 2010, PHE, 2015).

81. Also, the evidence suggests that the lack of trust is also a consequence of the failure to include ethnic minority people in trials used to develop new technology. This also is not without foundation, as the development of pulse oximeters shows.

82. Given the existing evidence on vaccine hesitancy, we anticipate that unless dedicated effort is made to address the concerns of ethnic minority people, effort which could be

made alongside the development of vaccines, the uptake of vaccines would be lower among ethnic minority people, leading to poorer outcomes for ethnic minority people, and for people living in their communities, compared with those for White British people.

83. The failure to pay attention to vaccine hesitancy and the limitations of pulse oximeters is consistent with our earlier discussion of institutional racism.

Topic 10: Missed opportunities

84. Here we outline our assessment of how responses to the Covid-19 pandemic missed evidence-informed opportunities to refine NPIs and clinical interventions in order to mitigate ethnic inequalities in its impact.

85. Ethnic minority people should have been identified as a vulnerable group and measures adopted to reduce their risk of infection.

86. Economic safety-nets should have been tailored to address the circumstances of ethnic minority people – precarious work, self-employment in sole trading or small business, inability to work from home.

87. The development of lockdown rules and their surveillance should have taken consideration of overcrowded poor-quality housing, lack of access to outside and green spaces, and reduced access to the internet.

88. Social distancing and lockdown measures should have been implemented alongside interventions that minimised digital exclusion.

89. Clinical interventions should have been developed in partnership with ethnic minority people and trials of their effectiveness and side effects should have included sufficient numbers of ethnic minority people.

90. For both NPIs and clinical interventions, greater use could have been made of the strength and cohesiveness of ethnic minority communities. There is longstanding evidence that shows that the aggregation of ethnic minority people in areas is beneficial once the negative effects of area deprivation have been adjusted for (Bécares et al., 2009a, Halpern and Nazroo, 2000). This includes a combination of feelings of increased security (lower exposure to racial harassment and discrimination) and increased social support, both occurring as a result of being embedded in and investing in a strong local community. Indeed, there is some evidence demonstrating that ethnic minority people evaluate the areas where they live much more highly than would be implied by official indices of deprivation, and do so precisely because these are locations where a sense of inclusive community for people like them has developed (Bécares and Nazroo, 2013, Bécares et al., 2015). Such communities could be powerful partners in the co-design and implementation of interventions designed to minimise risk during a pandemic.

91. In preparation for a pandemic, attention should be paid to the risk of an increase in prejudicial sentiment leading to a blaming of ethnic minority people, including blaming ethnic minority people for their own increased risk of adverse outcomes, and of racism. Such attention should be coupled with actions designed to minimise these risks and their harms.

92. More generally, in order to reduce ethnic inequalities in risk, attention should be paid to the drivers of racism and prejudice, anti-racist strategies should be developed and should be implemented.

93. Crucially, core political and administrative decision-makers missed an opportunity to implement the recommendations made by Public Health England (2018) to: 1) acknowledge, understand, and address the central role of racism; 2) not under-estimate exclusionary forces; and 3) learn from places that are making progress (in this case, community organisations built on anti-racist approaches).

Annex 1: References

Adler J, Hughes L, Vtvilecchia R, Jr. C. 1998, Effect of Skin Pigmentation on Pulse Oximetry Accuracy in the Emergency Department. Academic Emergency Medicine. 5, 10, 965-970.

Bécares, L. 2015. Which ethnic groups have the poorest health? *In:* JIVRAJ, S. & SIMPSON, L. (eds.) *Ethnic Identity and Inequality in Britain. The Dynamics of Diversity.* Bristol: Policy Press.

Bécares, L., Kapadia, D. & Nazroo, J. 2020. Neglect of older ethnic minority people in UK research and policy. *The BMJ,* 368**,** m212.

Bécares, L. & Nazroo, J. 2013. Social capital, ethnic density and mental health among ethnic minority people in England: a mixed-methods study. *Ethnicity and Health,* 18**,** 544-562.

Bécares, L., Nazroo, J. & Kelly, Y. 2015. A longitudinal examination of maternal, family, and area-level experiences of racism on children's socioemotional development: patterns and possible explanations. *Social Science & Medicine,* 142**,** 128-135.

Bécares, L., Nazroo, J. & Stafford, M. 2009a. The buffering effects of ethnic density on experienced racism and health. *Health & Place,* 15**,** 670-678.

Bécares, L., Stafford, M. & Nazroo, J. 2009b. Fear of racism, employment and expected organizational racism: their association with health. *European Journal of Public Health,* 19**,** 504-510.

Bécares, L. & Zhang, N. 2018. Perceived Interpersonal Discrimination and Older Women's Mental Health: Accumulation Across Domains, Attributions, and Time. *Am J Epidemiol,* 187**,** 924-932.

Bhala, N., Curry, G., Martineau, A., Agyemang, C. & Bhopal, R. 2020. Sharpening the global focus on ethnicity and race in the time of COVID-19. *The Lancet,* 395**,** 1673-1676.

Bhui, K., Stansfeld, S., Hull, S., Priebe, S., Mole, F. & Feder, G. 2003. Ethnic variations in pathways to and use of specialist mental health services in the UK: Systematic review. *British Journal of Psychiatry,* 182**,** 105-116.

Bickler, P., Feiner, J. & Severinghaus, J. 2005. Effects of Skin Pigmentation on Pulse Oximeter Accuracy at Low Saturation. *Anesthesiology,* 102**,** 715-719.

Bradby, H. 2010. Institutional Racism in Mental Health Services: The consequences of compromised conceptualisation. *Sociological Research Online,* 15**,** 8.

Brown, C., Bramley, G. & Watkins, D. 2010. Urban green nation: Building the evidence base. London: Commission for Architecture and the Built Environment.

Brynin, M. & Longhi, S. 2015. The effect of occupation on poverty among ethnic minority groups. York: Joseph Rowntree Foundation.

Byrne, B., Alexander, C., Khan, O., Nazroo, J., and Shankley, W. (eds) 2020, *Ethnicity, Race and Inequality in the UK: State of the Nation*, Bristol: Policy Press.

Cabinet_Office 2018. Race Disparity Audit Summary Findings from the Ethnicity Facts and Figures website. . London: Cabinet Office.

Chaturvedi, N. 2003. Ethnic differences in cardiovascular disease. *Heart,* 89**,** 681-686.

Chouhan, K. and Nazroo, J. 2020 Health inequalities. In Byrne, B., Alexander, C., Khan, O., Nazroo, J. And Shankley, W. (eds.) *Ethnicity, Race and Inequality in the UK: State of the Nation*, Bristol: Policy Press, 93-126

Das-Munshi, J., Bhugra, D. & Crawford, M. 2018. Ethnic minority inequalities in access to treatments for schizophrenia and schizoaffective disorders: findings from a nationally representative cross-sectional study. *BMC Medicine,* 16**,** 1-10.

Delon, C., Brown, K. F., Payne, N. W. S., Kotrotsios, Y., Vernon, S., and Shelton, J. 2022. Differences in Cancer Incidence by Broad Ethnic Group in England, 2013–2017, *British Journal of Cancer*, 126, 1765–73.

Devine, P., Kelly, G., & McAuley, M. 2022. Equality and Devolution in the United Kingdom: A Story in Three Acts and a Sequel. *Social Policy and Society*, 21(4), 612-626.

de Noronha, N. 2015. Ethnic disadvantage in the housing market: Evidence from the 2011 census. London: Race Equality Foundation.

Dolezsar, C. M., McGrath, J. J., Herzig, A. J. M. & Miller, S. B. 2014. Perceived racial discrimination and hypertension: a comprehensive systematic review. *Health Psychol,* 33**,** 20-34.

Downes, D., Cross, A., Hua, P., Roberts, N., Schwessinger, R., Cutler, A., Munis, A., Brown, J., Mielczarek, O., de Andrea, C., Melero, I., Gill, D., Hyde, S., Knight, J., Todd, J., Sansom, S., Issa, F., Davies, J. & Hughes, J. 2021. Identification of LZTFL1 as a candidate effector gene at a COVID-19 risk locus. *Nature Genetics,* 53**,** 1606-1615.

Edbrooke-Childs, J. & Patalay, P. 2019. Ethnic Differences in Referral Routes to Youth Mental Health Services. *Journal of the American Academy of Child and Adolescent Psychiatry,* 58**,** 368-375.

Elahi, F. & Khan, O. 2017. Islamophobia: Still A Challenge For Us All. London: The Runnymede Trust.

Emirbayer, M. & Desmond, M. 2015. *The Racial Order,* Chicago, The University of Chicago.

Emery J. 1987 Skin pigmentation as an influence on the accuracy of pulse oximetry. Journal of perinatology: official journal of the California Perinatal Association. 7, 6, 329-30

Erens, B., Primatesta, P. & Prior, G. 2001. Health Survey for England 1999: The Health of Minority Ethnic Groups. London: The Stationary Office.

Evandrou, M., Falkingham, J., Feng, Z. & Vlachantoni, A. 2016. Ethnic inequalities in limiting health and self-reported health in later life revisited. *Journal of Epidemiol Community Health,* 70**,** 653-662.

Fecht, D., Fischer, P., Fortunato, L., Hoek, G., de Hoogh, K., Marra, M., Kruize, H., Vienneau, D., Beelen, R. & Hansell, A. 2015. Associations between air pollution and socioeconomic characteristics, ethnicity and age profile of neighbourhoods in England and the Netherlands. *Environmental Pollution,* 198**,** 201-210.

Feiner, J., Severinghaus, J. & Bickler, P. 2007. Dark Skin Decreases the Accuracy of Pulse Oximeters at Low Oxygen Saturation: The Effects of Oximeter Probe Type and Gender. *Anesthesia & Analgesia,* 105**,** S18-S23.

Funnell, C. 2015. Racist hate crime and the mortified self: An ethnographic study of the impact of victimization. *International Review of Victimology,* 21**,** 71-83.

Golash-Boza, T. 2015. A Critical and Comprehensive Sociological Theory of Race and Racism. *Sociology of Race and Ethnicity,* 2**,** 129-141.

Halpern, D. & Nazroo, J. 2000. The ethnic density effect: results from a national community survey of England and Wales. *International Journal of Social Psychiatry,* 46**,** 34-46.

Halvorsrud, K., Nazroo, J., Otis, M., Brown Hajdukova, E. and Bhui, K. 2018. Ethnic inequalities and pathways to care in psychosis in England: A systematic review and meta-analysis, *BMC medicine*, 16, 205-211, Article number 223, doi: 10.1186/s12916-018-1201-9

Harding, S. & Maxwell, R. 1997. Differences in the mortality of migrants. *In:* DREVER, F. & WHITEHEAD, M. (eds.) *Health inequalities.* London: The Stationer Office.

Harris, R., Tobias, M., Jeffreys, M., Waldegrave, K., Karlsen, S. & Nazroo, J. 2006. Effects of self-reported racial discrimination and deprivation on Māori health and inequalities in New Zealand: cross-sectional study. *The Lancet (British edition),* 367**,** 2005-2009.

Hughey, M. & Jackson, C. 2017. The Dimensions of Racialization and the Inner-City School. *The Annals of the American Academy of Political and Social Science,* 673**,** 312-329.

Jivraj, S. & Khan, O. 2013. Ethnicity and deprivation in England: How likely are ethnic minorities to live in deprived neighbourhoods? Centre on Dynamics of Ethnicity briefing paper. Manchester: University of Manchester.

Jivraj, S., and Simpson, L. 2015. *Ethnic Identity and Inequalities in Britain: The Dynamics of Diversity*, Bristol: Policy Press

Kapadia, D., Nazroo, J. & Clark, K. 2015. Have ethnic inequalities in the labour market persisted? *In:* JIVRAJ, S. & SIMPSON, L. (eds.) *Ethnic Identity and Inequalities in Britain.* Bristol: Policy Press.

Kapaya, H., Mercer, E., Boffey, F., Jones, G., Mitchell, C. & Anumba, D. 2015. Deprivation and poor psychosocial support are key determinants of late antenatal presentation and poor fetal outcomes-a combined retrospective and prospective study. *BMC Pregnancy and Childbirth,* 15**,** 1-9.

Karlsen, S. & Nazroo, J. 2004. Fear of racism and health. *Journal of Epidemiol Community Health,* 58**,** 1017–1018.

Karlsen, S. & Nazroo, J. 2006. Measuring and Analyzing "Race," Racism, and Racial Discrimination. *In:* OAKES, J. & KAUFMAN, J. (eds.) *Methods in social epidemiology.* Hoboken: Jossey-Bass/Wiley.

Karlsen, S. & Nazroo, J. 2014. Ethnic and religious variations in the reporting of racist victimization in Britain: 2000 and 2008/2009. *Patterns of Prejudice,* 48**,** 370-397.

Karlsen, S. & Nazroo, J. Y. 2002a. Agency and structure: the impact of ethnic identity and racism on the health of ethnic minority people. *Sociology of Health & Illness,* 24**,** 1-20.

Karlsen, S. & Nazroo, J. Y. 2002b. Relation between racial discrimination, social class, and health among ethnic minority groups. *American Journal of Public Health,* 92**,** 624-31.

Karlsen, S., Nazroo, J. Y., McKenzie, K., Bhui, K. & Weich, S. 2005. Racism, psychosis and common mental disorder among ethnic minority groups in England. *Psychol Med,* 35**,** 1795-803.

Kelley, N., Khan, O. & Sharrock, S. 2017. Racial prejudice in Britain today. London: The Runnymede Trust.

Kelly, Y., Panico, L., Bartley, M., Marmot, M., Nazroo, J. & Sacker, A. 2009. Why does birthweight vary among ethnic groups in the UK? Findings from the Millennium Cohort Study. *Journal of Public Health,* 31**,** 131-137.

Latif, S. 2010. Effective methods of engaging black and minority ethnic communities within health settings. Better health Briefing Paper 18. London: Race Equality Foundation.

Lewis, T. T., Williams, D. R., Tamene, M. & Clark, C. R. 2014. Self-Reported Experiences of Discrimination and Cardiovascular Disease. *Current cardiovascular risk reports,* 8**,** 365-365.

Lymperopoulou, K. & Parameshwaran, M. 2015. Is there an ethnic group educational gap? *In:* JIVRAJ, S. & SIMPSON, L. (eds.) *Ethnic Identity and Inequalities in Britain: The Dynamics of Diversity. .* Bristol: Policy Press.

Marlow, L. 2011 HPV vaccination among ethnic minorities in the UK: knowledge, acceptability and attitudes. *Br J Cancer* 105, 486–492, https://doi.org/10.1038/bjc.2011.272

Marmot, M., Shipley, M. & Rose, G. 1984. Inequalities in death--specific explanations of a general pattern? *The Lancet,* 1**,** 1003-1006.

Martins, T., Abel, G., Ukoumunne, O. C., Mounce, L. T. A., Price, S., Lyratzopoulos, G., Chinegwundoh, F., and Hamilton, W. 2022. Ethnic Inequalities in Routes to Diagnosis of Cancer: A Population-Based UK Cohort Study, *British Journal of Cancer*, 127, 863–71

Martinson, M., McLanahan, S. & Brooks-Gunn, J. 2012. Race/ethnic and nativity disparities in child overweight in the United States and England. *Annals of the American Academy of Political and Social Science,* 643**,** 219–238.

Meer, N. 2020. Race Equality Policy Making in a Devolved Context: Assessing the Opportunities and Obstacles for a 'Scottish Approach'. *Journal of Social Policy*, 49, 233-250.

McFadden, A., Siebelt, L., Gavine, A., Atkin, K., Bell, K., Innes, N., Jones, H., Jackson, C., Haggi, H. & MacGillivray, S. 2018. Gypsy, Roma and Traveller access to and engagement with health services: A systematic review. *European Journal of Public Health,* 28**,** 74-81.

McLaughlin, E. (2003) 'Equality and Equity Policy' in M. Hawesworth, M. and M. Kogan, M. (eds.) *Encyclopedia of World Government and Politics* (2nd Edition), London, Routledge.

Ministry_of_Housing 2020. Ethnicity Facts and figures: Overcrowded Households. London: Ministry of Housing, Communities and Local Government.

Mirza, H. & Warwick, R. 2022. Race and ethnicity. IFS Deaton Review of Inequalities. London: Institute for Fiscal Studies.

Modood, T., Berthoud, R., Lakey, J., Nazroo, J., Smith, P., Virdee, S., and Beishon, S. 1997. *Ethnic Minorities in Britain: Diversity and Disadvantage*, London: Policy Studies Institute

Morgan, C., Fearon, P., Lappin, J., Heslin, M., Donoghue, K., Lomas, B., Reininghaus, U., Onyejiaka, A., Croudace, T., Jones, P., Murray, R., Doody, G. & Dazzan, P. 2017. Ethnicity and long-term course and outcome of psychotic disorders in a UK sample: The ÆSOP-10 study. *British Journal of Psychiatry,* 211**,** 88-94.

Nandi, A. & Luthra, R. 2016. Who experiences ethnic and racial harassment? Understanding Society Briefing Note. Wivenhoe: University of Essex.

Nandi, A., Luthra, R. & Benzeval, M. 2016. *Ethnic and racial harassment and mental health : Identifying sources of resilience,* ISER Working Paper Series, Institute for Social and Economic Research, University of Essex.

National_Statistics 2022. Ethnic group, national identity, language and religion in Wales (Census 2021). Cardiff: National Statistics.

Nazroo, J. 1998. Genetic, Cultural or Socio-economic Vulnerability? Explaining Ethnic Inequalities in Health. *Sociology of Health & Illness,* 20**,** 710-730.

Nazroo, J. 2001a. *Ethnicity, Class and Health,* London, Policy Studies Institute.

Nazroo, J. 2001b. South Asian people and heart disease: an assessment of the importance of socioeconomic position. *Ethnicity & Disease,* 11**,** 401-411.

Nazroo, J., Falaschetti, E., Pierce, M. & Primatesta, P. 2009. Ethnic inequalities in access to and outcomes of healthcare: analysis of the Health Survey for England. *Journal of Epidemiol Community Health,* 63**,** 1022-1027.

Nazroo, J. Y., Bhui, K. S. & Rhodes, J. 2020. Where next for understanding race/ethnic inequalities in severe mental illness? Structural, interpersonal and institutional racism. *Sociol Health Illn,* 42**,** 262-276.

NISRA 2022. Main statistics for Northern Ireland Statistical bulletin. Ethnic group Belfast: Northern Ireland Statistics and Research Agency.

Oakley, R. 1996. Racial violence and harassment in Europe, Strasbourg, Council of Europe.

ONS 2019. Exploring the UK's digital divide. London: Office for National Statistics.

ONS (2020) *Which occupations have the highest potential exposure to the coronavirus (COVID-19)?* https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/articles/whichoccupationshavethehighestpotentialexposuretothecoronaviruscovid19/2020-05-11

Panico, L., Bartley, M., Marmot, M., Nazroo, J., Sacker, A. & Kelly, Y. 2007. Ethnic variation in childhood asthma and wheezing illnesses: findings from the Millennium Cohort Study. *International Journal of Epidemiology,* 36**,** 1093-1102.

Paradies, Y. 2006. A systematic review of empirical research on self-reported racism and health. *International Journal of Epidemiology,* 35**,** 888-901.

Paradies, Y., Ben, J., Denson, N., Elias, A., Priest, N., Pieterse, A., Gupta, A., Kelaher, M. & Gee, G. 2015a. Racism as a Determinant of Health: A Systematic Review and Meta-Analysis. *PloS One,* 10**,** e0138511.

Paradies, Y., Ben, J., Denson, N., Elias, A., Priest, N., Pieterse, A., Gupta, A., Kelaher, M. & Gee, G. 2015b. Racism as a Determinant of Health: A Systematic Review and Meta-Analysis. *PloS one,* 10**,** e0138511-e0138511.

Pascoe, E. A. & Smart Richman, L. 2009. Perceived discrimination and health: a meta-analytic review. *Psychological bulletin,* 135**,** 531-554.

Pebody, R.G., Hippisley-Cox, J., Harcourt, S., Pringle, M., Painter, M. and Smith, G. 2007. Uptake of pneumococcal polysaccharide vaccine in at-risk populations in England and Wales 1999–2005. Epidemiology and Infection. 136, 3, 360-369

PHE 2015. Cover of vaccination evaluated rapidly (COVER) programme 2014 to 2015: quarterly data. London: Public Health England.

PHE 2018. Local action on health inequalities. Understanding and reducing ethnic inequalities in health London: Public Health England.

Phillips, C. 2010. Institutional racism and ethnic inequalities: an expanded multilevel framework. *Journal of Social Policy,* 40**,** 173-192.

Raisi-Estabragh, Z., McCracken, C., Bethell, M., Cooper, J., Cooper, C., Caulfield, M., Munroe, P., Harvey, N. & Petersen, S. 2020. Greater risk of severe COVID-19 in Black, Asian and Minority Ethnic populations is not explained by cardiometabolic, socioeconomic or behavioural factors, or by 25(OH)-vitamin D status: study of 1326 cases from the UK Biobank. *Journal of Public Health,* 42**,** 451–460.

Rayment-Jones, H., Harris, J., Harden, A., Khan, Z. & Sandall, J. 2019. How do women with social risk factors experience United Kingdom maternity care? A realist synthesis. *Birth,* 46**,** 461-474.

Richman, L.S. and Jonassaint, C. (2008) 'The Effects of Race-related Stress on Cortisol Reactivity in the Laboratory: Implications of the Duke Lacrosse Scandal', *Annuals of Behavioral Medicine*, *35*, 105–110, https://doi.org/10.1007/s12160-007-9013-8

Scottish Parliament (2016), Removing barriers: race, ethnicity and employment. Available at: https://archive2021.parliament.scot/S4_EqualOpportunitiesCommittee/Reports/EOS042016R01Rev.pdf

Singh, P., Srivastava, A., Sultana, G., Khanam, N., Pathak, A., Suravajhala, P., Singh, R., Shrivastava, P., van Driem, G., Thangaraj, K. & Chaubey, G. 2021. The major genetic risk factor for severe COVID-19 does not show any association among South Asian populations. *Scientific Reports,* 11**,** 12346.

Smith, A. & Simpson, L. 2015. In what ways is Scotland's ethnic diversity distinctive? *In:* JIVRAJ, S. & SIMPSON, L. (eds.) *Ethnic identity and inequalities in Britain: The dynamics of diversity.* Bristol: Policy Press.

Sproston, K. & Mindell, J. 2006. Health Survey for England 2004. Volume 1: The Health of Minority. Ethnic Groups. London: National Centre for Social Research.

Stevens, M., Hussein, S. & Manthorpe, J. 2012. Experiences of racism and discrimination among migrant care workers in England: Findings from a mixed-methods research project. *Ethnic and Racial Studies,* 35**,** 259-280.

Stopforth, S., Kapadia, D., Nazroo, J. and Bécares, L. (2023) 'Ethnic inequalities in health in later life, 1993-2017: The persistence of health disadvantage over more than two decades', *Ageing and Society*, *43*, 8, 1954-1982 doi: 10.1017/S0144686X2100146X

Thayer, Z.M and Kuzawa, C.W. (2015) 'Ethnic discrimination predicts poor self-rated health and cortisol in pregnancy: Insights from New Zealand', *Social Science & Medicine*, *128*, 36-42, https://doi.org/10.1016/j.socscimed.2015.01.003.

Virdee, S. 1997. Racial harassment. *In:* MODOOD, T., BERTHOUD, R., LAKEY, J., NAZROO, J., SMITH, P., VIRDEE, S. & BEISHON, S. (eds.) *Ethnic Minorities in Britain: Diversity and Disadvantage.* London: Policy Studies Institute.

Wallace, S., Nazroo, J. & Bécares, L. 2016. Cumulative Effect of Racial Discrimination on the Mental Health of Ethnic Minorities in the United Kingdom. *American Journal of Public Health,* 106**,** 1294-300.

Watson, H. & Downe, S. 2017. Discrimination against childbearing Romani women in maternity care in Europe: a mixedmethods systematic review. *Reproductive Health,* 14**,** 1-16.

Williams, D. R., Lawrence, J. A. & Davis, B. A. 2019. Racism and Health: Evidence and Needed Research. *Annual review of public health,* 40**,** 105-125.

Williams, D. R. & Mohammed, S. A. 2013. Racism and Health I: Pathways and Scientific Evidence. *American Behavioral Scientist,* 57**,** 1-19.

Williams, D. R. & Neighbors, H. 2001. Racism, discrimination and hypertension: evidence and needed research. *Ethn Dis,* 11**,** 800-16.

Wohland, P., Rees, P., Nazroo, J. & Jagger, C. 2015. Inequalities in healthy life expectancy between ethnic groups in England and Wales in 2001. *Ethnicity and Health,* 20**,** 341-353.

Zeberg, H. & Pääbo, S. 2020. The major genetic risk factor for severe COVID-19 is inherited from Neanderthals. *Nature,* 587**,** 610-612.