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Ethnic Inequalities in Later Life

Final report for the Nuffield Foundation

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Study Team

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Executive Summary

Over the course of their lives, ethnic minority people have poorer health and wellbeing than the White majority population; they are over twice as likely to be born low birthweight, have up to seven years less healthy life expectancy at birth, and have poorer health and socioeconomic circumstances in adulthood. Less is known about ethnic inequalities at later stages in the life course, although a handful of UK studies have shown that ethnic inequalities in health and wellbeing are much worse at older ages than at younger ages. This project aimed to address these gaps in knowledge by using innovative methods to analyse existing Census and survey data to provide much needed information on (i) the nature of ethnic inequalities in health, wellbeing, and socioeconomic circumstances at older ages, (ii) why these inequalities exist, and (iii) whether, how and why they have changed in the past 20 years.

The **key research findings** from this project are as follows.

- Ethnic inequalities in health become visible in middle and later life and continue to widen over middle and older age, between the ages of 40 and 80. Ethnic minority people show the rates of health typical of white people who are significantly older. The rates of poor health for Black Caribbean men and women are consistently equivalent to the rates of White British men and women who are ten years older. The inequalities are even more pronounced for Pakistani and Bangladeshi groups, where poor health rates are equivalent to or higher than rates for White British men and women often twenty and sometimes thirty years older.
- There are stark and persistent ethnic inequalities in poor health over more than two decades (1993-2017). For example, after controlling gender and age, the odds of reporting fair or poor self-rated health compared with the White/White British group are at least double for the Pakistani group (95 percent C.I. 1.51-2.85), at least 1.64 times higher (95 percent C.I. 0.94-2.87) for the Bangladeshi group, and at least 1.5 times higher (95 percent C.I. 1.09-2.14) for the Black Caribbean. Ethnic inequalities in health remain after accounting for differences in gender, age, socio-economic position and experiences, of racism and discrimination.
- Ethnic inequalities in socio-economic position are entrenched for people in later life. Pakistani and Bangladeshi women over the age of 45 were half as likely to be in the labour market as White British women. Pakistani and Bangladeshi men over the age of 45 were less likely to be in full-time employment and Bangladeshi men were also four times more likely to be working part-time compared with White British men. The rates of unemployment were higher for men and women from all minoritised ethnic groups, but men in the oldest age group (over the age of 75) from all minoritised ethnic groups were more likely to be working full-time compared

with White British men. For women, this pattern held for the over 75s and the 65-74 age group. Amongst people with a degree, Black African and Black Caribbean men and women were the least likely to have an occupation in the most advantaged social class, despite having the same level of education as White British counterparts.

- Exposure to racism severely and negatively impacts the health of people from minoritised ethnic groups in the UK. Using data which repeatedly surveys the same people over time, we find that when racism is reported at the same time as health, there are strong and negative effects. When racism is reported before health, there are strong effects, which we find to operate through income and prior health over time. This demonstrates the enduring effect of racism, both interpersonal (e.g. discrimination and harassment) and structural (e.g. socio-economic inequalities). This is largely consistent across different stages of the life course.

The main **policy recommendations** resulting from the project findings are:

- Produce and implement a national race equality strategy with a clear plan to tackle ethnic health inequalities to prevent the worsening of these inequalities in old age.
- Address socio-economic disadvantage over the life course, and provide socio-economic support in later life to redress inequalities in income and occupation.
- Recognise and address the role of racism and racial discrimination in patterning social and health inequalities for ethnic minority groups.
- Close the ethnicity data gap: ethnicity data reporting must be truly mandatory in all official and statutory statistics and data monitoring. We emphasise that there needs to be a stronger investment in data and research infrastructure to document ethnic inequities in later life. To effectively document and understand ethnic health inequalities in later life and identify drivers of healthy ageing for ethnic minority people, studies must include suitable sampling designs with representative and sufficiently large samples of ethnic minority groups. Surveys must include questions on ethnicity, identity, and key determinants, such as experiences of racism and racial discrimination.
- Use disaggregated categories (e.g. Pakistani, Bangladeshi, Indian, Other Asian) instead of overarching ethnic categories (e.g. Asian or BAME) to more precisely reflect the experiences of ethnic minority groups.

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1 Introduction

Ethnic inequalities in health and wellbeing permeate the entire life course. People from minoritised ethnic groups have much poorer health outcomes than the white majority group throughout their lives. These inequalities are well-documented across childhood and into adulthood across a wide range of health outcomes, for example in birthweight (1), asthma (2), obesity (3), early development (4), heart disease, hypertension, and diabetes (5-7), mental health and wellbeing (8), and general health (9-14).

The evidence on ethnic inequalities in later life in the UK is much less developed. The small number of studies that have explored this have demonstrated that older ethnic minority people have poorer health and wellbeing (10, 11, 15), report poorer health-related quality of life (16), and are more likely to be lonely (17, 18), leading to social exclusion. The central objective of this project was to fill the substantial data and evidence gap in the UK around ethnic health inequalities in later life.

Explaining ethnic health inequalities

The existence of ethnic inequalities in health is well-documented, but the explanations for these differences are complex. Studies have demonstrated that most of the inequalities in poor health can be explained by differences in socio-economic position. Minoritised ethnic groups with the poorest health tend to also be the most disadvantaged in terms of educational outcomes, labour market participation, housing tenure, income, and wealth. For example, people from minoritised ethnic groups tend to live in more disadvantaged areas (19), have poorer housing quality or live in overcrowded houses (20, 21), have higher rates of unemployment (22, 23) or work in less advantaged, lower paid occupations (24), and have higher levels of education which are not transferred into occupational advantage (25).

A fundamental cause of ethnic inequalities in both health and socio-economic circumstances is racism and racial discrimination (8, 26). Racism has a direct impact on health and wellbeing through several mechanisms, for example through stress pathways, physiological reactions, or negative self-esteem (8, 26-29). Importantly, racism also has an indirect impact on health via socio-economic inequalities over the life course (5, 13, 28, 30-33). As ethnic minority people approach later life, the interplay of accumulated social and economic disadvantage, including experiences of racial discrimination, will affect their health.

Ageing and later life

Ethnic inequalities have the potential to worsen as people age. Life course theory (34) emphasises that people's experiences and developments over their lifetime are not only about age and ageing, but that these trajectories are inherently social. Studies in the United States have highlighted that the accumulation of social and economic disadvantage over the life course, as a direct and indirect result of racism, leads to a 'weathering effect' (35), this is, earlier onset of poorer health and deterioration for people from minoritised ethnic groups. Previous research has shown the cumulative effect of racist experiences on mental health (8), and the negative impact of experiencing racism vicariously, e.g., through family members, on ethnic minority people's health (36, 37). In addition, older ethnic minority people tend also to have fewer socio-economic resources (38), a history of insecure or precarious employment (39, 40), are more likely to retire from the labour market due to poor health (22), are less likely to live in good housing (41), and less likely to have adequate pensions (42). This accumulation of disadvantage is likely to lead to increased ethnic inequalities in health and wellbeing in later life.

Purpose of this study

At the outset of this project, there was a distinct evidence gap around ethnic inequalities in later life in the UK. Research into the health of older ethnic minority people had been neglected both in ethnicity research and in the social gerontology field (11, 43, 44). This contributed to a dearth of adequate policy solutions to support the ageing ethnic minority population. This was in part due to a lack of suitable data (45) to study outcomes for ethnic minority groups. The central objective of this project was to address this concerning gap in evidence, and to mobilise the evidence we produced to raise awareness and action around ethnic inequalities in later life.

The project, thus, aimed to provide essential, and previously unknown, information on the health, wellbeing, and socio-economic circumstances of older ethnic minority people in the UK. We did this by making innovative use of existing Census and survey data. The analyses that follow provide novel, up to date evidence on health inequalities and their determinants for ageing ethnic minority groups in the UK. We had three specific research aims:

1. Document the existence and persistence of ethnic inequalities in health, wellbeing, and socio-economic circumstances in later life;
2. Understand the underlying causes of ethnic inequalities in health, wellbeing, and socio-economic circumstances in later life;

3. Explore how and why ethnic inequalities in later life have changed over time, cohorts, and migrant generations.

2 Methodology

The large evidence gap about the health, wellbeing, and social circumstances of older ethnic minority people was in part due to lack of suitable data (45). A key objective of this project was to address the gaps in research knowledge and policy practice. We made innovative use of existing datasets that had previously not been combined and analysed together before. In this chapter, we outline the methodology used throughout the project.

Data

A central element of this project was to understand ethnic inequalities in the UK over time. However, we cannot adequately study the life course for older ethnic minority people with the current data available within the UK. Although we have access to longitudinal surveys (i.e., surveys that follow people over time) which focus on understanding ageing of the general population, they do not have suitable sample sizes of ethnic minority people.

We navigated this limitation by combining and analysing existing datasets in innovative ways to estimate the effects of ageing over time. We used population-level data for England and Wales from the 1991, 2001, and 2011 Censuses to undertake repeated cross-sectional analyses and provide snapshots of ethnic inequalities in health and socio-economic circumstances at decennial points in time. We analysed the Office for National Statistics Longitudinal Study (46) (a 1% random sample of the population) linked to death records, which enabled the study of ethnic inequalities in mortality over time.

Administrative data are very useful and can provide important information at a population level. However, these data do not contain more fine-grained social science measures found in survey data which can help to understand the determinants of the phenomena we observe at a population level. In this project, we were specifically interested in modelling the effects of socio-economic position and racial discrimination on ethnic health inequalities, which is often overlooked in empirical analyses. We analysed four social surveys with data collections spanning more than 25 years (1993-2019): the Fourth National Survey of Ethnic Minorities 1993/94, the Health Survey for England 1999 and 2004, the Citizenship Survey 2007, and Understanding Society waves 1 (2009/11) to wave 9 (2017/19). All of these datasets have complex, multi-stage, stratified random sample survey designs and are nationally-representative, thereby allowing inference from our results to the populations from which the samples were taken. Each survey has an ethnic minority boost sample as a key component of the survey design.

A key limitation of studying older ethnic minority people is the restrictive sample sizes in datasets, often resulting in low “statistical power”, meaning that we are unable to establish whether any observed differences in outcomes between groups are simply due to chance. This is exacerbated for the oldest cohorts, where sample sizes are even more constrained. This is a systemic problem present in social surveys and administrative data, and continues to contribute to the marginalisation of older ethnic minority people in the UK (45). We return to this issue in the conclusion, where we also formulate key recommendations to improve the data infrastructure in the UK.

Methods

We used a range of quantitative research methods to analyse these data sources. We observed how inequalities change across cohorts and generations using descriptive statistics of population-level data. We produced trajectories of health and socio-economic outcomes using Census data from 2001 and 2011. To better understand the mechanisms of how socio-economic inequalities and racism affect health, we used more sophisticated multivariate statistical models and nationally representative social survey data. We outline the specific analytical methods undertaken for each separate analysis at the relevant junctures in the report.

Harmonising measures

Using a wide range of alternative data sources within a single project presents challenges to ensure that analyses are comparable. We harmonised our key variables across the data sources as closely as possible, to enable comparisons over time. To monitor changes in ethnic inequalities over time, we compared the relative differences in outcomes between minoritised ethnic groups and the white majority group, rather than using absolute outcomes, in order to give an estimate of ethnic inequalities in these outcomes.

Across our analyses of health outcomes, we use four measures of general health which are self-reported by individuals. Limiting long-term illness relates to whether individuals have a long-term illness or disability and, if so, the extent to which this limits their daily activities or work. If an individual reports having a long-term illness, and they report that this illness limits their daily activities, we say they have a limiting long-term illness. Self-rated health relates to a question asking respondents to report on their general health, ranging from very positive to very negative. It is important to note that the responses to the self-rated health questions used in this research are not always consistent, as some surveys have more positive than negative options. Finally, we use two scale measures of physical and mental health based on the Short Form SF-12 questionnaire (47) routinely used in health analyses.

Ethnicity is self-reported in all datasets from a pre-defined list of ethnic groups. The ethnicity options available to respondents in social surveys tend to be informed by the latest guidance from the Office for National Statistics, and correspond with the latest available Census. However, the pre-defined lists have changed over time. We retain the most disaggregated version of ethnicity possible in each analysis, but specific ethnic groups may differ between research outputs. For example, in the Fourth National Survey of Ethnic Minorities and 1999 Health Survey for England, Black African people were not sampled. In the 1999 and 2004 Health Survey for England and 1991 Census, White British is not distinct from White minority groups, although Irish respondents could be identified. Where analyses are longitudinal and rely on several data resources, often our analyses are based on the largest ethnic groups, which tend to be consistent over time: White/White British, Irish, Black Caribbean, Black African, Indian, Pakistani, Bangladeshi, and Chinese respondents.

Throughout our analyses we use demographic measures of gender and age. In all of our surveys, gender is recorded for men and women. In regression models, we often use age-squared (i.e., age multiplied by age) rather than age on its own. We do this because we do not expect the effect of age on health to be linear, rather we expect older ages to have stronger and more disadvantageous relationships with health compared with younger ages. In other words, we expect health to deteriorate as people age.

An important aspect of this work is to account for socio-economic position. We use measures of household income, education level, occupational social class, and economic activity in analyses of socio-economic position. We harmonise these measures to be as comparable as possible, i.e., combining data to have the same categories.

Incorporating measures of racism and structural disadvantage is a fundamental aspect of this research. Structural racism relates to disadvantaged access to physical, economic, and social resources, which may lead to persistent socio-economic inequalities. Institutional racism relates to routine processes or procedures which expedite actions that negatively shape experiences for people from minoritised ethnic groups. Interpersonal racism relates to everyday encounters of racism, for example, verbal or physical abuse (48). The measures of racism collected in social surveys tend to relate to interpersonal racial discrimination. It is more difficult to directly measure structural and institutional racism via survey instruments.

Measures of racism are not available in all datasets, and where they are available, they are often inconsistent between surveys. Measures often ask about experiences of racial discrimination at one point in time, and therefore we cannot adequately capture the effects of racial discrimination experienced over the life course. Prolonged and repeated exposure to disadvantage and racial discrimination will have longer-term effects than the contemporaneous, cross-sectional measures are able to illustrate. Measures are also self-reported, and there may be an under-reporting of experiences of racial discrimination as its pervasiveness in society means that individuals may not perceive or report their experiences (49).

3 Documenting ethnic inequalities in later life over time

There are large ethnic inequalities in health with people from most minoritised ethnic groups having much poorer health outcomes than the White British group. In this chapter, we focus on documenting ethnic inequalities over time, across cohorts and generations. We examine health inequalities in morbidity via general health measures of limiting long-term illness and self-rated health. We investigate inequalities in mortality by attempting to reproduce analyses of life expectancy by ethnicity. Finally, we document socio-economic inequalities over time using population-level data.

Ethnic inequalities in health

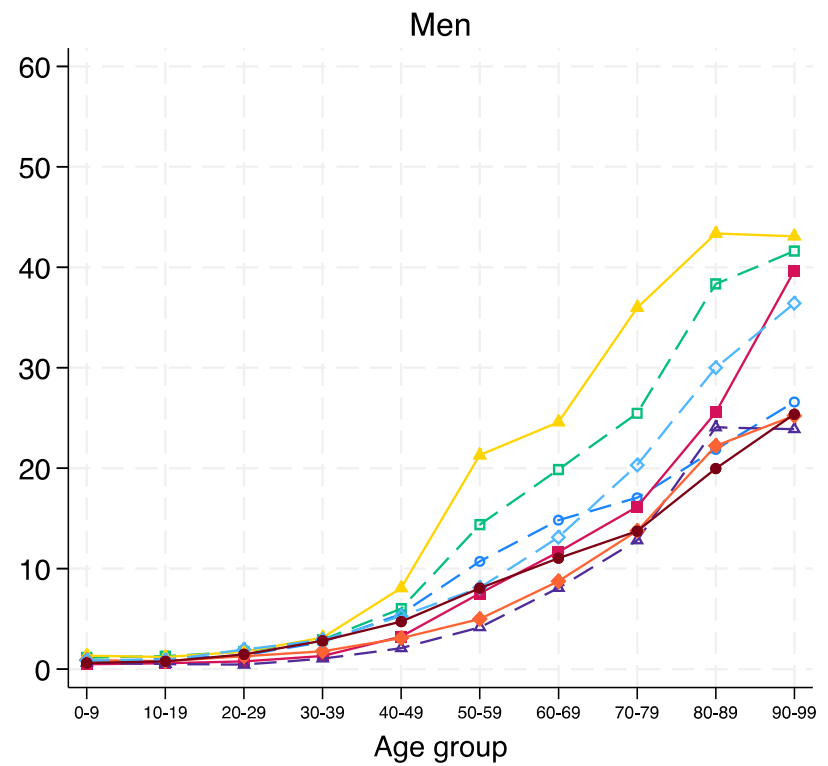
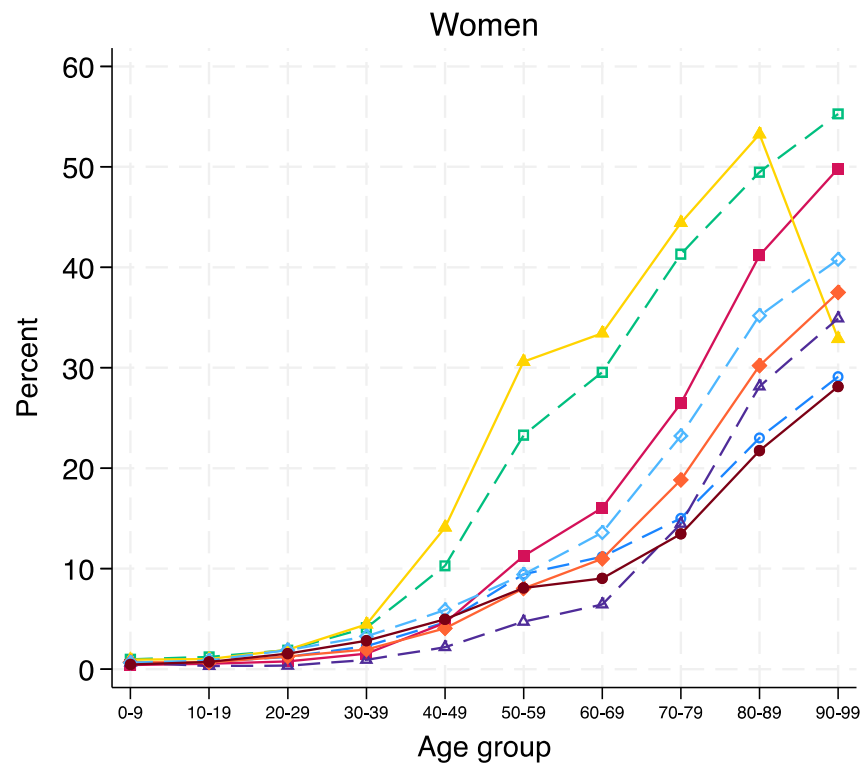
Studies consistently report that there are ethnic inequalities in health at every stage of the life course (10, 13, 14, 50-53). As people from minoritised ethnic groups approach later life, the accumulation of social and economic disadvantage will undoubtedly affect their health. We might expect this to lead to increased ethnic inequalities in later life. In this analysis, we take a life course approach to conceptualising and understanding ethnic inequalities in later life.

We analysed Census data from England and Wales in 2001 and 2011 to document health trajectories. Our full analysis can be found in the published book chapter (54). We focus on self-reported health, but we also find very similar patterns when using limiting long-term illness. Figure 1 shows that ethnic inequalities in health increase rapidly with age and are most pronounced in later life. Before the age of 30, inequalities in health are negligible for people from different ethnic groups. However, between the ages of 40 and 80, ethnic inequalities in health trajectories diverge and continue to widen into old age. The rate of increase is particularly pronounced for Pakistani, Bangladeshi, and Indian men and women, and for Black Caribbean men. White/White British men and women, and Chinese and Black African men have some of the most favourable rates of good health across the life course. Chinese women also have favourable rates of good health, but this deteriorates rapidly after the age of 70-79.

Crucially, the rates of poor self-rated health among Pakistani and Bangladeshi people tend to be equivalent to, or worse than, the rates for White/White British people who are at least twenty years older. For example, 22% of White/White British women in their 80s reported poor health. This is equivalent to the percentage of Pakistani women reporting poor health in their 50s (23%). The percentage of Bangladeshi women in their 50s reporting poor health (31%) is even higher than that of White British women in their 80s. Similar trends are seen for other ethnic groups: rates of poor health among Black Caribbean people are equivalent to those of White/White British people who are ten

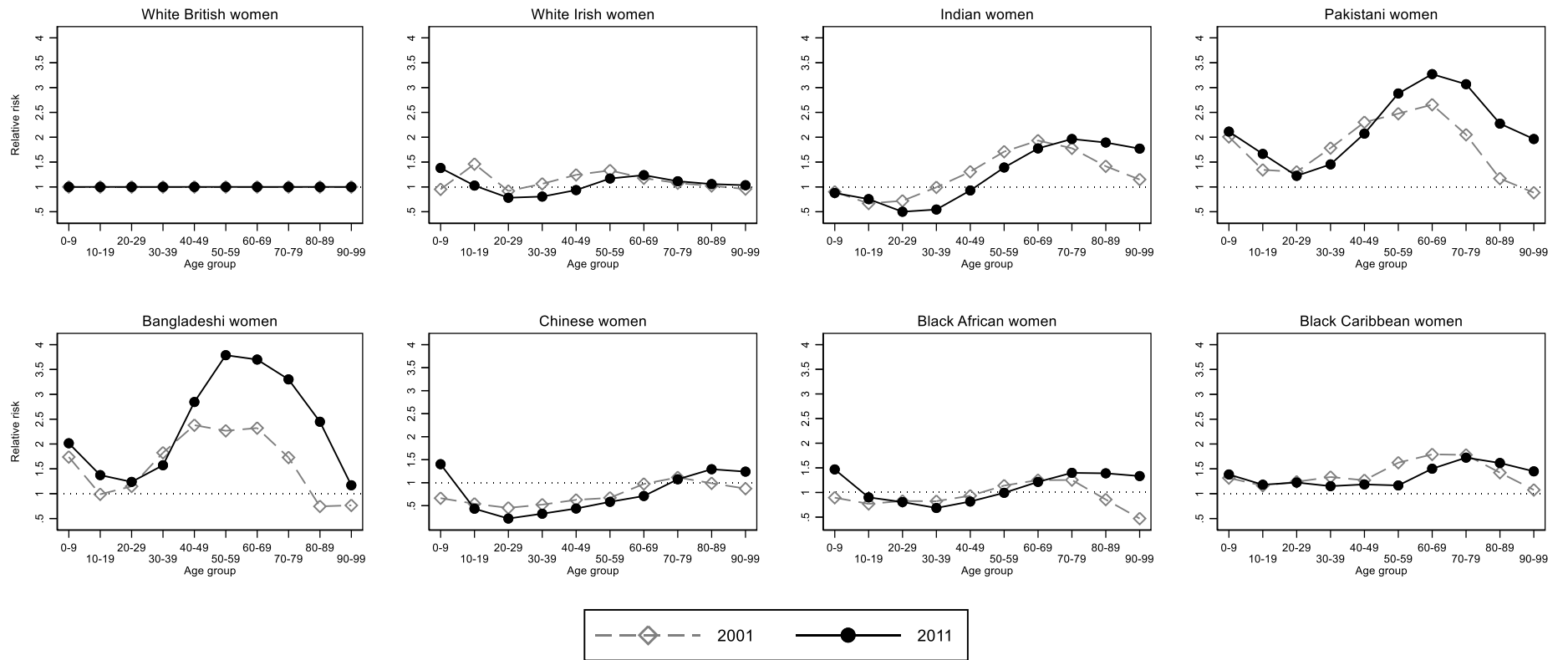
years older. This clearly demonstrates disproportionate physiological deterioration for ethnic minority people, exhibiting rates of health typical of white people who are significantly older. These patterns are consistent with the weathering hypothesis.

Figures 2 and 3 demonstrate that these patterns of inequalities in poor health are remarkably consistent over time for most ethnic groups. Compared with the White British group, inequalities tend to widen as people age across all ethnic groups. Any increases in inequalities in poor health over time tend to be in the older age categories, for example, for Indian, Black African, and Black Caribbean women over the age of 70, and for Pakistani and Bangladeshi men and women from the age of 50. When comparing poor health rates at different stages of the life course, inequalities opened up in early adulthood and widened throughout mid and later life. As similar inequalities can be observed across generations and over time, this indicates that inequalities in health not only expand as people age, but also persist over time.



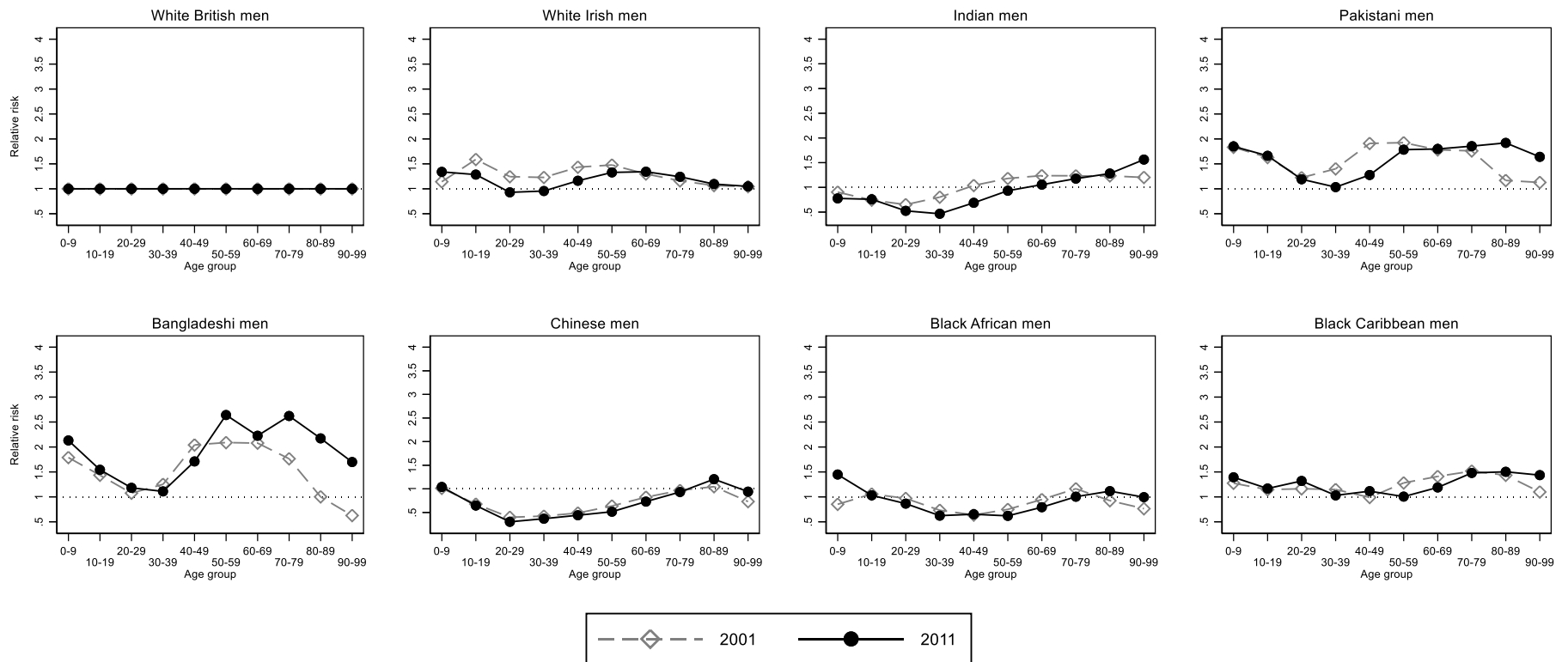
Source: 2011 Census data, own calculations. Poor self-rated health aggregates 'bad' and 'very bad' health.

Figure 1: Age-specific rates of poor self-rated health for men and women by ethnicity (2011)



Source: 2001 and 2011 Census, own calculations. White British rate = 1. Poor health refers to 'not good' health in 2001, and aggregates 'bad' and 'very bad' self-rated health in 2011.

Figure 2: Relative risks of poor health for ethnic minority women compared with White British women by age and period (2001 and 2011)



Source: 2001 and 2011 Census, own calculations. White British rate = 1. Poor health refers to 'not good' health in 2001, and aggregates 'bad' and 'very bad' self-rated health in 2011.

Figure 3: Relative risks of poor health for ethnic minority men compared with White British men by age and period (2001 and 2011)

Ethnic inequalities in mortality

Although there is a strong consensus on the persistence of ethnic inequalities in health, the evidence on ethnic inequalities in mortality is more mixed. Common epidemiological and demographic methods to estimate and compare mortality are to calculate age-standardised mortality rates and life expectancy estimates via a life table (55). Life expectancy estimates are often used as a key indicator of health inequalities. They are a powerful tool to inform policy around population health and service provision and therefore it is important to have methodologically robust, correct estimates. In line with the health disadvantage faced by many minoritised ethnic groups, some studies have also shown a mortality disadvantage through lower life expectancy and healthy life expectancy (56, 57). For example, Rees and colleagues used linked 2001 Census and mortality data at a local authority level and the Standardised Illness Ratio method and found that Mixed White and Black Caribbean, Pakistani, Bangladeshi, and Black Other groups had the lowest life expectancy estimates (57). Using data from the England and Wales Census in 2001, Wohland and colleagues similarly demonstrated lower life expectancies for many ethnic minority groups, with even greater inequalities in disability-free life expectancy (56).

However, recent experimental statistics from the Office for National Statistics demonstrated that the White and Mixed ethnic groups had the lowest life expectancies at birth, with most minoritised ethnic groups having a mortality advantage (58). Men and women who self-identified as Black African, Other Asian, or Other, and Bangladeshi women had the highest life expectancies at birth (58). The life expectancy estimates for some ethnic groups were very high, in some cases exceeding those for countries with the greatest longevity such as Japan (59). For example, the 2011-2014 life expectancy estimates suggested that an 80-84 year old Bangladeshi woman would live a further 15.5 years, an 85-89 year old Bangladeshi woman a further 13.5 years, and a Bangladeshi woman over the age of 90 a further 11 years. By comparison, White women in the same age groups were estimated to live an additional 9.9 years, 7.2 years, and 5.3 years respectively.

We attempted to replicate the ONS's life expectancy estimates using the Office for National Statistics Longitudinal Study (ONS-LS) with records linked to the mortality register. The ONS-LS contains linked census and life events data for a 1% sample of the population in England and Wales since 1971 (for a detailed cohort profile of the ONS-LS see 46). We derived life expectancy estimates for 2001 and 2011 using the revised Chiang method (60). We adjusted the population denominator for known deaths and known migrations in this period. The published national life expectancy was 75.85 years for men and 80.47 years for women in 2001-2003, and was 78.91 for men and 82.71 for women in 2011-2013 (see

Figure 1 in 61). When we used conventional ONS methodology to calculate life tables and derive life expectancy estimates for the total population using the 1% sample, we were able to closely replicate national estimates for 2001 (75.42 [95% confidence interval 74.97 – 75.88] for men and 79.56 [95% confidence interval 79.13 – 79.98] for women) and 2011 (78.87 [95% confidence interval 78.44 – 79.29] for men and 81.82 [95% confidence interval 81.41 – 82.23] for women).

However, when we attempted to disaggregate estimates by ethnicity, our analyses uncovered a meaningful and systemic problem. There was a substantial loss to follow-up, which is defined as people who were present in the 2001 Census and no longer present in the 2011 Census, without a death or migration record to explain this absence. The proportion of people who were missing between censuses was much larger for people from all ethnic minority groups compared with White British people (see Table 1). For the White British and White Irish groups, the percentage of those who were not observed at the 2011 Census but with a known outcome (i.e., a registered death or recorded migration) was 11% and 19%, respectively, and much greater than the percentage with missing status (9% and 16%, respectively). For all other ethnic minority groups, there was a much greater percentage of people with missing status (range 12% to 30%) compared with having a known outcome (range 2% to 11%).

Table 1: Missing status (between 2001 and 2011 censuses) by ethnicity (percentages)

	Present	Died	Migrated	Missing	Total n
White British	79.8	10.4	0.5	9.3	468,111
White Irish	65.1	16.5	2.6	15.9	6,337
White Other	61.6	6.8	3.9	27.7	13,256
White & Black Caribbean	76.3	1.9	0.5	21.4	2,394
White & Black African	76.1	3.6	*	19.6	*
White & Asian	80.2	2.3	0.9	16.6	1,891
Mixed Other	74.6	2.4	1.6	21.4	1,516
Indian	82.4	4.5	0.7	12.4	12,579
Pakistani	79.3	2.9	0.4	17.4	8,380
Bangladeshi	81.3	2.6	0.6	15.5	3,285
Asian Other	77.6	2.6	1.0	18.8	2,640
Black Caribbean	75.2	5.4	0.6	18.7	4,854
Black African	71.8	2.6	0.9	24.8	4,069
Black Other	73.6	3.1	*	22.6	*
Chinese	68.2	3.7	1.7	26.4	2,264
Other Group	64.2	1.9	3.8	30.1	2,251
<i>Total</i>	<i>78.9</i>	<i>9.8</i>	<i>0.7</i>	<i>10.6</i>	<i>535,541</i>

Source: ONS-LS. LS members observed in 2001 and followed up in 2011.

Note: The columns are not necessarily mutually exclusive, as it is possible to have both a migration and death record within a census period. Percentages and row totals are suppressed and denoted with an (*) where cell percentages relate to counts that do not meet statistical disclosure thresholds.

The underlying parameters required to estimate life expectancy are population size and number of deaths by age for each group of interest. When exit from the population (i.e., through death or migration) is not precisely accounted for, this leads to an over-estimation of the population base and a likely under-estimation of the number of deaths. This would produce artificially high life expectancy estimates, with the effect amplified as calculations for a given age group are informed by mortality rates in previous age groups. The loss to follow-up similarly poses a problem for producing age-standardised mortality rates and survival analysis, because we do not know the outcomes for a large proportion of people. We examine the impact of this on life expectancy estimates by ethnicity in much greater detail in the extension of the project (see Report 2).

Ethnic inequalities across socio-economic outcomes

Previous research has indicated that older ethnic minority people tend to have fewer socio-economic resources (38), a history of insecure or precarious employment (39, 40), are more likely to retire from the labour market due to poor health (22), are less likely to live in good housing (41), and less likely to have adequate pensions (42). The socio-economic inequalities prevalent across the life course are directly related to the outcomes observed in later life. In this repeated cross-sectional analysis, we used Census data from 1991, 2001, and 2011 to examine the extent of persisting socio-economic inequality at a population level. We examine three key socio-economic domains: economic activity, education level, and social class (measured by the official UK National Statistics Socio-Economic Classification).

We found clear ethnic inequalities for men and women in the labour market in line with previous research demonstrating poorer outcomes for Black African, Black Caribbean, Pakistani, and Bangladeshi people compared with White British people. In particular, we observed that Pakistani and Bangladeshi women over the age of 45 were half as likely to be in the labour market as White British women. Pakistani and Bangladeshi men over the age of 45 also had less access to full-time employment compared with White British men. Bangladeshi men were also four times more likely to be working part-time compared with White British men, which is indicative of the rise of more insecure employment. The rates of unemployment were higher for men and women from all minoritised ethnic groups compared with White British unemployment rates. By contrast, men in the oldest age group (over the age of 75) from all minoritised ethnic groups were more likely to be working full-time compared with White British men. For women, this pattern held for the over 75s and the 65-74 age group. In part, this finding may relate to the younger age profile of some minoritised ethnic groups, for example in the Black African group, people are more likely to be at the younger end of the age bracket. However, for many minoritised groups, for example Black Caribbean people who have an older age structure, the continuation of work past state retirement age may reflect economic necessity and financial insecurity.

Table 2: Labour market outcomes of ethnic minority men aged 45 and over: relative rates (RR) (compared with White British men) of economic activity (EC AC), full-time (FT) and part-time (PT) employment, self-employment (SE) and unemployment (UN), 1991 – 2011 (Source: Census for England and Wales)

Ethnicity	Age	1991 (n=4,740,701)					2001 (n=4,762,108)					2011 (n= 5,872,753)				
		EC AC	FT	PT	SE	UN	EC AC	FT	PT	SE	UN	EC AC	FT	PT	SE	UN
White Irish	All 45+	1.0	1.0	0.8	0.9	1.7	0.9	0.9	1.1	1.6	0.9	0.9	0.9	0.9	1.1	1.3
	45-54	0.9	0.9	0.8	1.0	1.8	0.9	0.9	1.0	1.2	1.7	1.0	0.9	0.9	1.2	1.3
	55-59	1.0	1.0	0.7	0.8	1.7	0.9	1.0	0.8	1.1	1.6	1.0	0.9	0.9	1.2	1.4
	60-64	1.0	1.0	0.7	0.7	1.5	1.0	1.1	0.8	0.9	1.6	1.0	1.0	0.8	1.0	1.5
	65-74*	1.1	1.4	1.0	0.7	2.5	1.0	1.5	1.0	0.7	1.5	1.0	1.4	0.8	0.9	1.3
	75+	-	-	-	-	-	-	-	-	-	-	1.1	1.6	0.9	0.7	1.1
	Black Caribbean	All 45+	1.3	1.1	0.6	0.4	2.1	0.8	1.0	1.2	0.6	2.9	1.1	0.8	1.6	1.4
45-54		0.9	1.0	1.2	0.4	2.1	1.0	0.9	1.4	0.8	3.2	1.0	0.9	1.7	0.8	2.7
55-59		1.1	1.1	0.7	0.4	1.8	1.0	1.1	1.0	0.5	2.6	1.0	0.9	1.1	0.8	2.8
60-64		1.2	1.1	0.4	0.3	1.8	1.0	1.2	0.7	0.4	2.3	1.0	1.1	0.9	0.7	2.4
65-74*		1.4	2.1	0.6	0.3	8.5	1.0	2.0	1.0	0.4	3.0	0.9	1.7	0.9	0.5	2.4
75+		-	-	-	-	-	-	-	-	-	-	1.4	2.0	0.9	0.4	2.5
Black African		All 45+	1.4	0.9	0.9	0.6	2.3	1.1	1.0	1.3	0.7	2.8	1.4	1.0	1.4	0.6
	45-54	0.9	0.9	2.3	0.6	2.4	0.9	0.9	2.2	0.7	2.6	0.9	0.8	2.3	0.8	2.5
	55-59	1.0	0.9	1.0	0.6	2.0	1.0	1.0	1.1	0.6	2.6	1.0	0.9	1.3	0.7	2.3
	60-64	1.1	0.9	0.8	0.6	2.1	1.1	1.0	0.8	0.6	3.2	1.2	1.1	0.9	0.6	2.5
	65-74*	1.7	1.4	0.6	0.6	13.8	1.6	1.8	0.6	0.4	6.2	1.5	1.7	0.6	0.5	5.5
	75+	-	-	-	-	-	-	-	-	-	-	2.2	1.7	0.7	0.5	5.0
	Indian	All 45+	1.3	0.9	0.5	1.2	1.6	1.1	0.9	0.9	1.3	1.4	1.2	0.9	1.2	1.2
45-54		0.9	0.9	1.1	1.3	1.4	1.0	0.9	1.3	1.4	1.2	1.0	0.9	2.0	1.2	1.0
55-59		1.0	0.9	0.7	1.1	1.6	0.9	0.9	0.8	1.2	1.5	1.0	0.9	1.3	1.2	1.1
60-64		1.0	0.9	0.5	1.0	1.8	0.9	0.9	0.7	1.2	1.8	1.0	0.9	0.9	1.1	1.3
65-74*		1.2	1.5	0.4	1.0	6.2	1.2	1.2	0.7	1.0	2.2	1.1	1.1	0.7	1.1	1.7
75+		-	-	-	-	-	-	-	-	-	-	1.4	1.2	0.8	0.9	1.7
Pakistani		All 45+	1.2	0.7	0.5	1.0	3.4	0.8	0.6	1.6	1.5	2.9	1.1	0.5	1.8	1.7
	45-54	0.8	0.7	1.6	1.1	3.2	0.8	0.6	3.2	1.7	2.9	0.9	0.5	3.3	1.9	1.4
	55-59	0.9	0.7	0.5	0.8	3.3	0.8	0.7	1.2	1.2	3.2	0.8	0.5	2.0	1.8	1.8
	60-64	0.9	0.6	0.3	0.7	3.6	0.7	0.8	0.7	1.2	2.8	0.8	0.6	1.0	1.6	1.6
	65-74*	1.2	1.5	0.2	0.6	19.7	0.9	1.1	0.6	1.0	2.7	0.8	0.9	0.6	1.2	2.0
	75+	-	-	-	-	-	-	-	-	-	-	1.2	1.2	0.8	0.9	2.6
	Bangladeshi	All 45+	1.2	0.5	0.5	0.7	5.4	0.6	0.5	3.6	1.1	4.0	1.0	0.4	4.0	1.2
45-54		0.8	0.5	1.8	0.9	5.2	0.8	0.5	7.6	1.2	4.1	0.9	0.3	7.8	1.3	2.6
55-59		0.8	0.5	0.5	0.6	5.2	0.6	0.6	2.2	1.2	3.7	0.7	0.4	3.9	1.1	3.5
60-64		0.9	0.4	0.2	0.4	5.2	0.4	0.7	1.5	0.9	3.5	0.7	0.6	1.6	1.3	1.5
65-74*		1.5	1.1	0.2	0.6	28.7	0.5	0.9	0.7	0.8	5.5	0.6	1.0	0.7	1.1	2.3
75+		-	-	-	-	-	-	-	-	-	-	1.1	1.5	0.7	0.7	4.8
Chinese		All 45+	1.3	0.6	0.6	2.1	1.5	1.1	0.7	1.2	1.7	1.5	1.2	1.0	1.1	0.7
	45-54	1.0	0.6	1.2	2.1	1.4	1.0	0.7	1.9	2.0	1.4	1.0	0.7	2.7	1.5	0.9
	55-59	1.0	0.5	0.8	2.3	1.5	0.9	0.7	1.4	1.5	1.8	1.0	0.7	1.8	1.5	1.2
	60-64	1.0	0.6	0.8	2.1	1.6	0.8	0.6	0.8	1.6	2.2	0.9	0.8	1.2	1.3	1.1
	65-74*	1.6	1.1	0.3	1.4	7.8	1.1	1.0	0.6	1.2	1.3	0.9	1.1	0.7	1.1	1.1
	75+	-	-	-	-	-	-	-	-	-	-	1.1	1.2	0.7	0.9	1.4

* For 1991, the figures presented for this age group are for all adults aged 65 and over. Further breakdown of the oldest age group was not available from ONS

Table 3: Labour market outcomes of ethnic minority women aged 45 and over: relative rates (RR) (compared with White British women) of economic activity (EC AC), full-time (FT) and part-time (PT) employment, self-employment (SE) and unemployment (UN), 1991 – 2011 (Source: Census for England and Wales)

Ethnicity	Age	1991 (n=3,258,694)					2001 (n=3,757,258)					2011 (n=4,995,706)				
		EC AC	FT	PT	SE	UN	EC AC	FT	PT	SE	UN	EC AC	FT	PT	SE	UN
White Irish	All	1.2	1.1	1.0	0.7	1.4	0.9	1.1	1.0	0.8	1.3	0.9	1.1	0.9	1.0	1.2
	45+	1.0	1.1	0.9	0.7	1.5	0.9	1.1	0.9	0.9	1.4	1.0	1.1	0.8	1.1	1.3
	45-54	1.1	1.1	1.0	0.6	1.3	1.0	1.2	0.9	0.7	1.2	1.0	1.1	0.9	0.9	1.3
	55-59	1.3	1.2	1.0	0.5	1.5	1.2	1.2	1.0	0.7	1.2	1.1	1.2	0.9	0.7	1.3
	60-64	1.6	1.4	1.0	0.6	1.6	1.4	1.4	1.1	0.5	1.2	1.2	1.4	1.0	0.7	1.1
	65-74*	-	-	-	-	-	-	-	-	-	-	1.3	1.2	1.1	0.6	1.1
	75+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Black Caribbean	All	1.9	1.6	0.5	0.2	1.9	1.0	1.4	0.6	0.3	2.2	1.3	0.9	0.7	1.9	1.8
	45+	1.1	1.5	0.5	0.2	1.8	1.0	1.4	0.6	0.4	2.4	1.0	1.2	0.7	0.6	2.2
	45-54	1.3	1.5	0.5	0.2	1.8	1.0	1.5	0.6	0.4	1.9	1.1	1.3	0.6	0.6	2.0
	55-59	1.4	2.0	0.6	0.2	3.5	1.1	1.9	0.7	0.3	1.9	1.3	1.7	0.7	0.4	2.4
	60-64	2.0	2.4	0.6	0.2	5.6	1.4	2.1	0.9	0.2	2.2	1.1	2.2	0.8	0.4	2.3
	65-74*	-	-	-	-	-	-	-	-	-	-	1.8	1.7	0.8	0.4	2.6
	75+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Black African	All	2.0	1.5	0.4	0.5	3.4	1.2	1.4	0.5	0.5	3.5	1.5	1.3	0.6	0.7	3.3
	45+	1.0	1.3	0.4	0.5	3.3	0.9	1.3	0.5	0.6	3.3	0.9	1.1	0.6	0.7	3.0
	45-54	1.1	1.5	0.4	0.5	2.5	1.0	1.5	0.5	0.5	3.3	1.0	1.3	0.5	0.7	2.6
	55-59	1.2	1.7	0.6	0.7	9.0	1.1	1.9	0.6	0.6	4.6	1.3	2.0	0.5	0.5	3.3
	60-64	3.3	1.9	0.5	0.4	2	1.6	1.7	0.7	0.3	5.8	1.3	2.6	0.6	0.5	5.8
	65-74*	-	-	-	-	-	-	-	-	-	-	3.0	1.9	0.6	0.4	5.5
	75+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Indian	All	1.2	1.3	0.4	1.5	3.2	1.0	1.2	0.6	1.4	2.2	1.1	1.1	0.8	1.1	1.7
	45+	0.8	1.3	0.4	1.7	2.8	0.9	1.1	0.6	1.6	2.1	0.9	1.0	0.8	1.2	1.5
	45-54	0.7	1.3	0.3	1.5	3.4	0.7	1.3	0.5	1.4	2.7	0.8	1.1	0.8	1.2	1.8
	55-59	0.6	1.7	0.4	1.2	9.9	0.6	1.6	0.6	1.3	3.0	0.9	1.4	0.7	1.1	1.8
	60-64	1.0	1.7	0.4	0.9	12.1	0.8	1.8	0.7	1.0	2.1	0.8	1.7	0.7	1.1	2.2
	65-74*	-	-	-	-	-	-	-	-	-	-	1.3	1.7	0.7	0.8	2.5
	75+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pakistani	All	0.5	0.9	0.4	1.9	6.5	0.3	0.8	0.8	1.6	5.4	0.5	0.8	0.9	1.5	4.2
	45+	0.3	0.8	0.4	2.2	5.4	0.3	0.7	0.9	1.6	5.2	0.4	0.7	1.0	1.5	3.9
	45-54	0.2	0.8	0.3	2.1	6.5	0.3	1.0	0.6	1.6	3.9	0.3	0.8	0.8	1.7	3.6
	55-59	0.3	0.8	0.4	1.0	33.8	0.2	1.0	0.5	1.8	11.1	0.3	1.1	0.7	1.5	3.4
	60-64	1.4	1.3	0.3	0.6	23.1	0.4	1.8	0.5	0.7	8.0	0.4	1.8	0.6	1.1	4.3
	65-74*	-	-	-	-	-	-	-	-	-	-	1.0	1.6	0.5	0.7	6.3
	75+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bangladeshi	All	0.5	0.8	0.3	0.8	9.6	0.2	0.8	0.8	1.2	6.7	0.4	0.7	0.8	1.1	7.3
	45+	0.2	0.8	0.4	0.9	8.5	0.2	0.8	0.8	1.2	6.7	0.3	0.6	0.9	1.2	6.9
	45-54	0.2	0.5	0.3	0.5	10.5	0.2	0.9	0.6	1.6	5.9	0.2	0.7	0.8	1.1	7.4
	55-59	0.4	1.2	0.3	0.6	31.9	0.2	1.0	0.7	0.9	11.9	0.2	1.2	0.8	1.0	4.4
	60-64	2.0	2.1	0.3	0.7	12.5	0.5	1.6	0.7	0.8	3.3	0.3	1.9	0.7	0.8	5.3
	65-74*	-	-	-	-	-	-	-	-	-	-	1.0	2.0	0.6	0.3	5.7
	75+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chinese	All	1.4	1.0	0.5	2.8	2.1	1.1	1.0	0.6	2.1	1.9	1.3	1.4	0.7	0.5	2.3
	45+	0.9	1.0	0.5	3.1	1.8	0.9	0.9	0.7	2.5	1.8	0.9	0.9	0.8	2.2	1.7
	45-54	0.8	0.9	0.6	3.2	2.0	0.9	1.2	0.5	1.9	2.7	0.9	0.9	0.8	1.8	1.6
	55-59	0.8	1.1	0.6	2.5	6.7	0.9	1.4	0.6	1.5	3.7	0.9	1.2	0.8	1.3	1.8
	60-64	1.7	1.3	0.5	1.2	9.4	1.0	1.5	0.7	1.4	0.5	1.0	1.8	0.7	1.1	2.0
	65-74*	-	-	-	-	-	-	-	-	-	-	1.4	1.4	0.7	1.0	3.5
	75+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

* For 1991, the figures presented for this age group are for all adults aged 65 and over. Further breakdown of the oldest age group was not available from ONS

Pakistani and Bangladeshi men and women, and Black Caribbean men were also less likely to have a degree level qualification compared with White British people. Although Black African and Chinese older people tended to have higher educational qualifications than the White British group, importantly this did not translate into occupational advantage in the labour market. In particular, we found that amongst people with a degree, Black African and Black Caribbean men and women were the least likely to have an occupation in the most advantaged social class, despite having the same level of education as White British counterparts. These inequalities were persistent and stable across the Census years.

A central message from this work is the entrenched nature of ethnic inequalities across the three socio-economic domains. Socio-economic outcomes are often studied in isolation, but the different domains of socio-economic position are not independent; they interlink and influence each other.

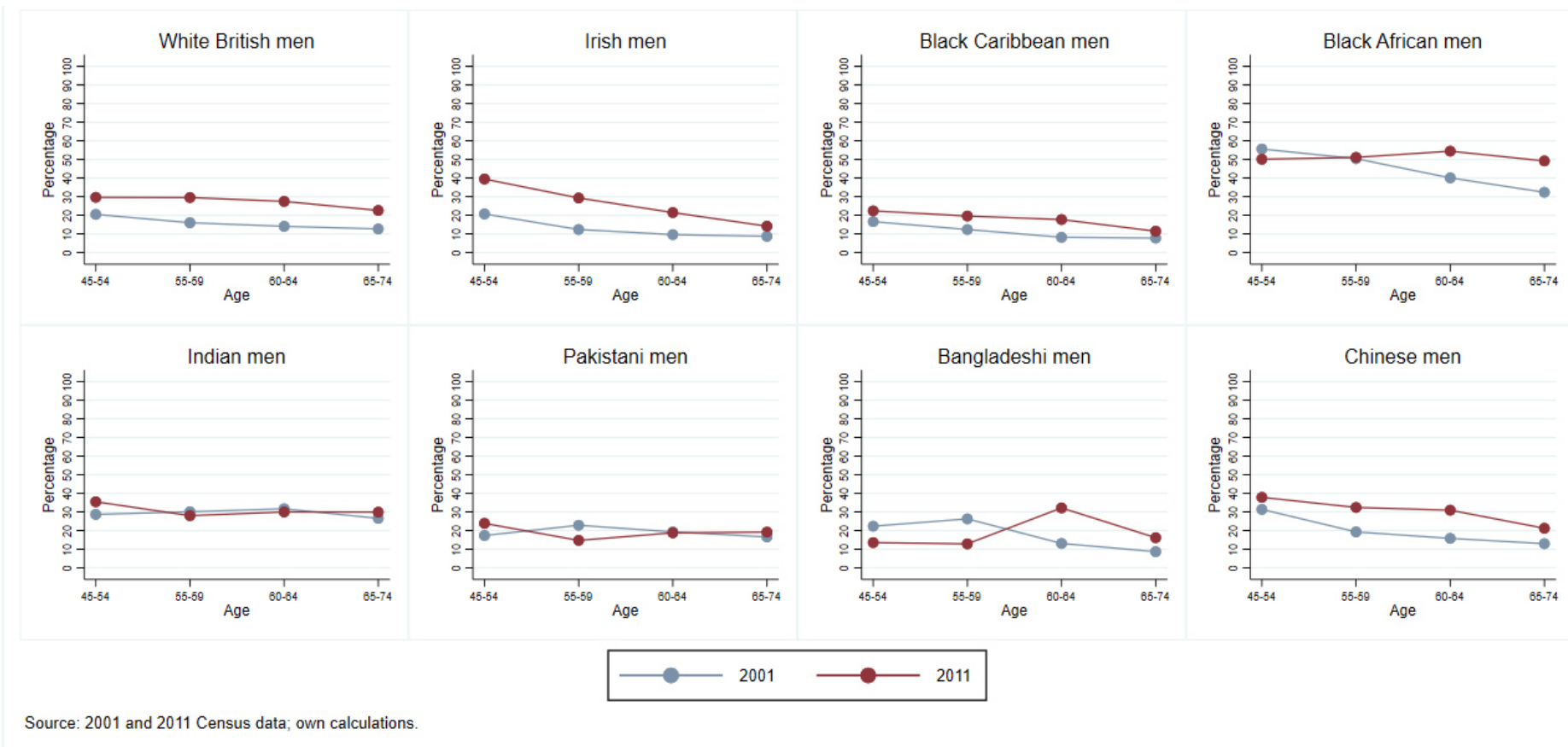


Figure 4: Percentage of men aged 45 and over with degree level (or equivalent) & higher qualifications (2001 and 2011)

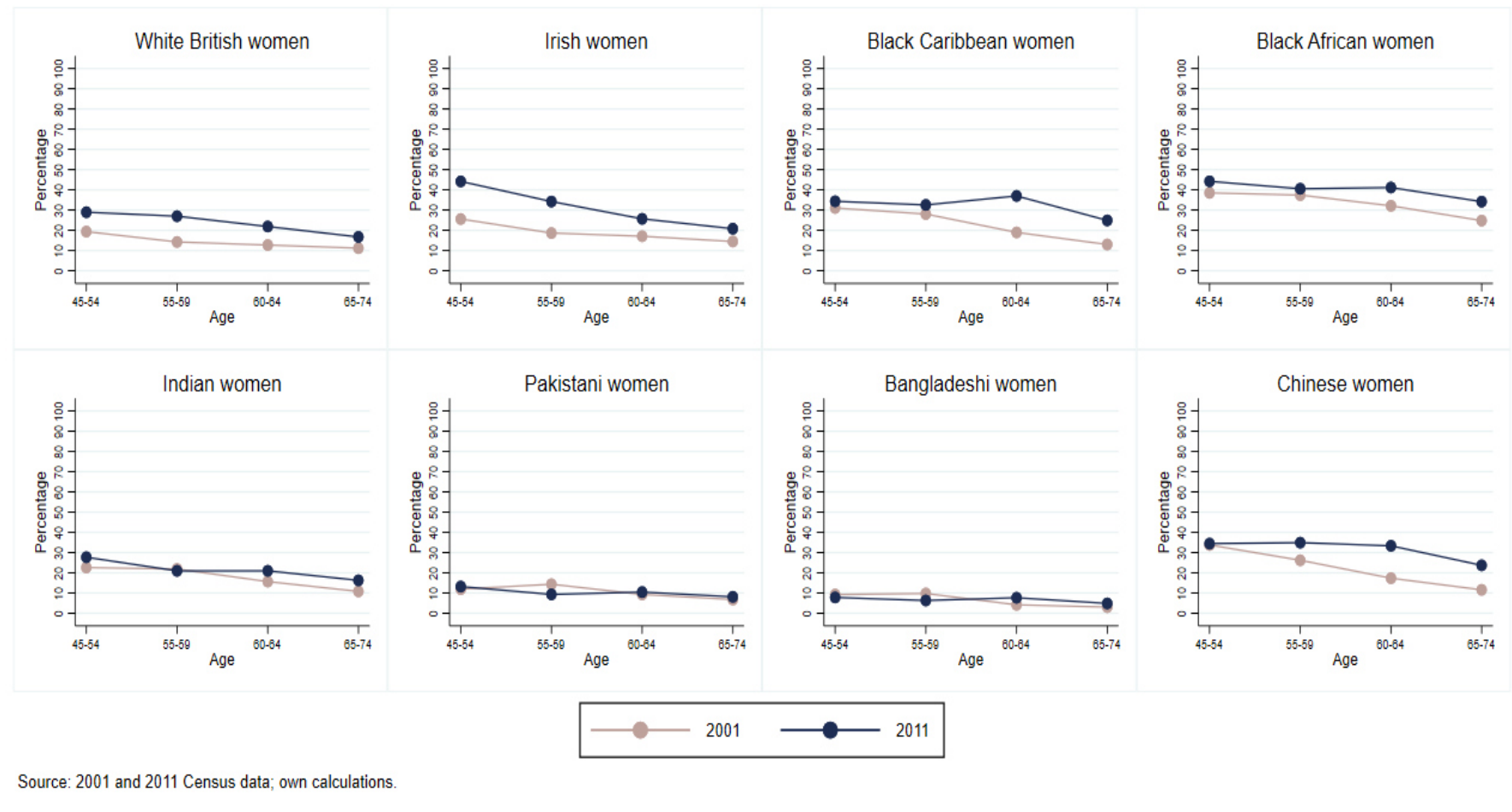


Figure 5: Percentage of women aged 45 and over with degree level (and equivalent) or higher qualifications (2001 and 2011)

Discussion

The descriptive analyses of population-level data have illuminated clear patterns in ethnic health inequalities for people at different ages. The clear divergence in ethnic health inequalities for people from their mid-30s onwards demonstrate the ‘weathering’ of health, i.e., the earlier onset of ill health due to the accumulation of disadvantage over the life course (35). Ethnic health inequalities tend to level off for men in the oldest ages. These findings are consistent with other national contexts and may be accounted for by increased mortality (62), and selective return migration (63).

The analyses from Census and social survey data further demonstrate persisting ethnic inequalities over time. Theories of ageing and resultant policy interventions are based on normative ideas of ageing derived from studies of the white population (64). These narratives assume trajectories of healthy ageing whereby people live longer in healthier states, which is at odds with the trajectories observed for ethnic minority people where there is evidence of much earlier onset of poor health (51, 54). These narratives also often assume access to social and economic resources which are often unavailable to older ethnic minority people (65). Our analyses clearly demonstrate that ethnic inequalities are prevalent and persisting across multiple socio-economic domains in later life. In the next chapter, we examine the mechanisms of ethnic inequalities in health, accounting for such socio-economic inequalities and racism and discrimination.

Theories of cumulative (dis)advantage and cumulative inequality argue that inequality increases with age as a result of the accumulation over the life course of several types of capital, including social, economic, and personal (66). The underlying socio-economic and historical processes that produce patterns of increasing inequality in health over time are not easily observed (67). The different migration histories of ethnic minority groups, including historical time and reasons for migrating, different employment opportunities, and material conditions and living standards, have had a significant impact on health and ageing profiles. For example, migrants who came to the UK in order to fill semi-skilled and unskilled employment gaps were forced, through poverty and hostility, into poor private rental accommodation and precarious owner-occupied housing located in inner cities. This pattern of inner-city clustering, overcrowding, and housing deprivation became characteristic of post-war migrants’ life in the UK, impacting on socio-economic conditions, health, and wellbeing (54).

Summary

When comparing poor health rates at different stages of the life course, inequalities opened up in early adulthood and widened throughout mid and later life. This clearly demonstrates disproportionate

physiological deterioration for ethnic minority people, exhibiting rates of health typical of white people who are significantly older. Bangladeshi, Pakistani, and Black Caribbean men and women had the most pronounced health disadvantages compared with the White British group, perhaps a consequence of the particularly hostile environment that migrants experienced on coming to the UK. Similar inequalities were observed across generations and over time, with inequalities in health not only expanding as people age, but also persisting over time.

4 Investigating the determinants of ethnic inequalities in health

The reasons for ethnic health inequalities are complex. Previous studies have demonstrated that the unequal distribution of socio-economic position across some ethnic minority groups leads to ethnic health inequalities (5). Racism and racial discrimination are also well-documented underlying drivers of both ethnic health inequalities (68) and of socio-economic inequalities (30). Whilst a small number of studies in the UK have examined ethnic inequalities specifically in later life and cited the importance of racism (11, 12, 16), measures of racism have not been employed in the analyses. A review of the social gerontological scholarship of ethnicity and race has illuminated that studies tend to discuss racialisation without racism, by either avoiding, using pseudonyms, or only alluding to the importance of racism, rather than directly engaging with its effects (44). In this section of the report, we examine the impact of socio-economic inequalities and the role of racism in detail. We use large scale, nationally representative social survey data spanning more than two decades.

The role of socio-economic inequalities in explaining ethnic inequalities in health

To investigate the role of socio-economic inequalities on health inequalities we analysed seven social survey datasets spanning the years 1993 to 2017. These datasets were the Fourth National Survey of Ethnic Minorities 1993/94, the Health Survey for England 1999 and 2004, the Citizenship Survey 2007, and Understanding Society waves 1 (2009/11) to wave 9 (2017/19). We included household income, education level, and occupational social class as measures of socio-economic position.

We additionally adjust our analyses for experiences of racism and discrimination. Measures of racism and racial discrimination are not collected consistently in each dataset, and are only available in the Fourth National Survey of Ethnic Minorities, the Citizenship Survey, and Understanding Society. To harmonise measures as closely as possible, we use dichotomous measures of whether respondents have experienced any form of racist abuse or not, and whether they fear or anticipate racial harassment or not. More detail on the exact measures and methods used can be found in the published paper (69).

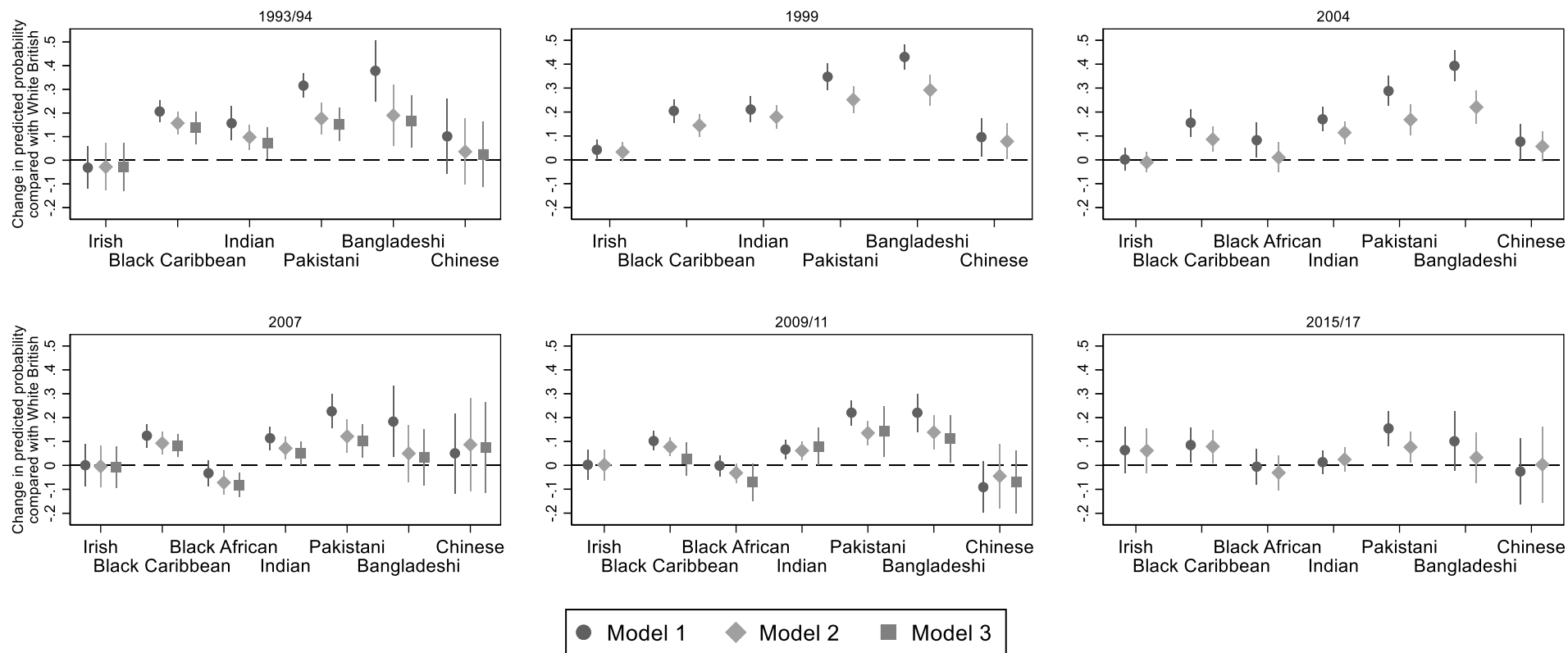
We found that White, Irish, and Chinese people were consistently in more advantaged socio-economic positions. By comparison, Pakistani and Bangladeshi people tended to be in the most disadvantaged socio-economic positions across all survey years. Black Caribbean people also tended to be in more disadvantaged socio-economic positions. Despite having much higher rates of degree-level education, Black African and Indian people were consistently under-represented in the highest income quintile.

Figure 6 presents logistic regression analyses of general health (probabilities of having fair or poor self-rated health). We build the regression model in stages to better understand how accounting for the socio-economic and racism measures affect ethnic inequalities in health outcomes: first we only adjust for ethnicity, age, and sex (Model 1); then we add in socio-economic measures (Model 2); and finally we add in measures of racism and discrimination (Model 3). After adjusting for ethnicity, age, age-squared, and gender, we find that White/White British, Irish, Black African, and Chinese respondents had the most advantaged health. Rates of poor health tended to be higher for Black Caribbean and Indian people, and were particularly high for Pakistani and Bangladeshi people. For example, the odds of reporting fair or poor self-rated health compared with the White/White British group were at least double for the Pakistani group (95% confidence interval 1.51-2.85), at least 1.64 times higher (95% confidence interval 0.94-2.87) for the Bangladeshi group, and at least 1.5 times higher (95% confidence interval 1.09-2.14) for the Black Caribbean. These findings of stark ethnic inequalities in health were consistent throughout all survey years (1993 to 2017). Figure 7 presents the logistic regression analysis of another measure of general health, limiting long-term illness, and demonstrates very similar patterns.

Income, education, and social class were significantly associated with both limiting long-term illness and fair or poor self-rated health. People in more advantaged socio-economic positions tended to have better health outcomes. After adjusting for socio-economic position in the regression models, there were some attenuations of effects, i.e., the coefficients for some ethnic minority groups were reduced. Adjusting for socio-economic position had a significant and substantial attenuating effect on inequalities in all survey years for Pakistani respondents (7–10 percentage points for LLTI and 8–14 percentage points for fair or poor self-rated health) and Bangladeshi respondents (7–14 percentage points for LLTI and 7–19 percentage points for fair or poor self-rated health). There were more modest attenuating effects on inequalities in health for Black Caribbean respondents (1–4 percentage points for LLTI and 1–7 percentage points for fair or poor self-rated health) and Indian respondents (0–5 percentage points for LLTI and 1–6 percentage points for fair or poor self-rated health). We can interpret the reduced effects as socio-economic position explaining some of the ethnic inequalities in health outcomes. It further reflects the socio-economic disadvantage that most ethnic minority groups experience, and the strong association between this disadvantage and health.

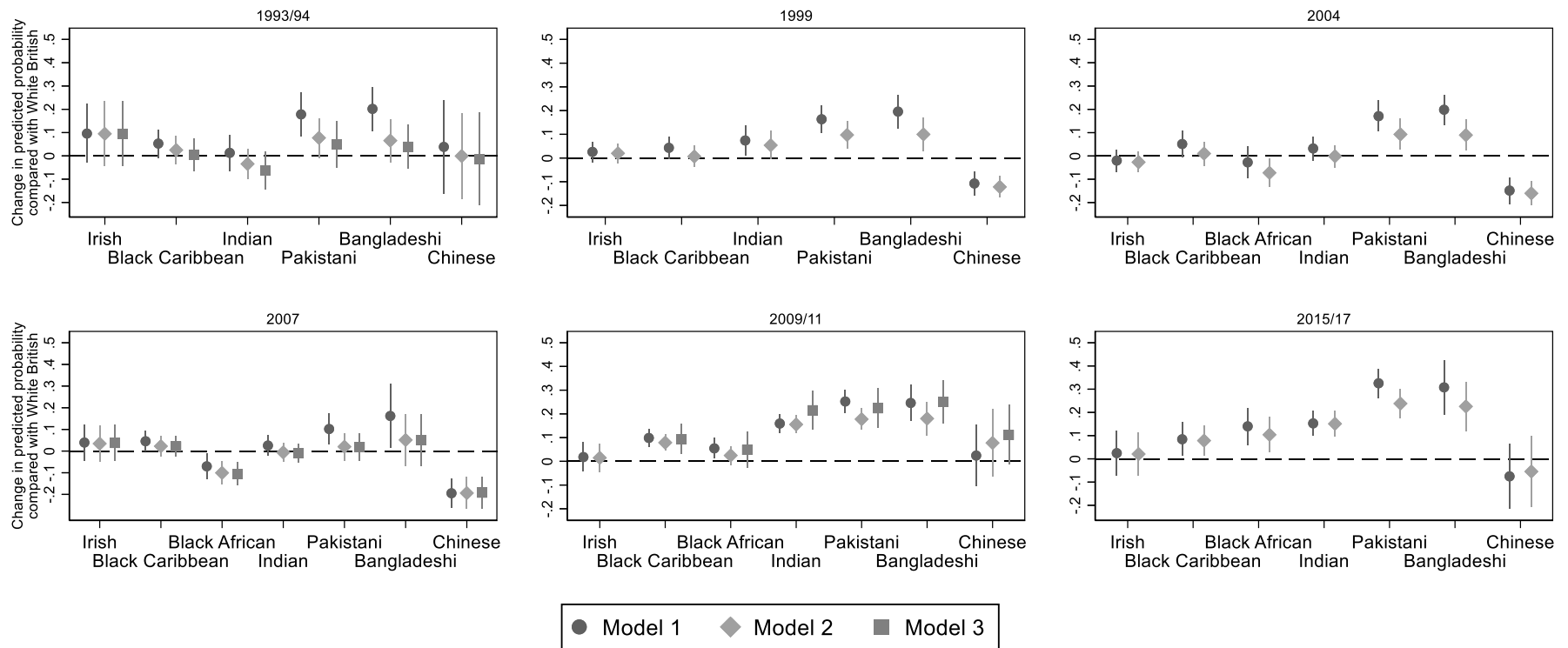
Although there is evidence of a negative association between racism and discrimination and health outcomes, there was less consistent evidence of racism and discrimination further attenuating the

relationship between ethnicity and health. Previous research has shown that racism and discrimination affects both health and socio-economic position, and therefore it is entirely plausible that the effects of racism on health were largely acting through socio-economic position. We unpick this mechanism in more detail in the next section.



Sources: Fourth National Survey 1993; Health Survey for England 1999; Health Survey for England 2004; Citizenship Survey 2007; Understanding Society wave 1 2009/11; Understanding Society wave 7 2015/17. Model 1 adjusts for ethnicity, age, age-squared, and sex. Model 2 additionally adjusts for socio-economic position. Model 3 additionally adjusts for racism and racial discrimination. Note that Model 3 for Understanding Society wave 1 is estimated on the extra five minute sample only (n=2730).

Figure 6: Relative probabilities of fair or poor self-rated health by ethnicity (comparison group: White/White British)



Sources: Fourth National Survey 1993; Health Survey for England 1999; Health Survey for England 2004; Citizenship Survey 2007; Understanding Society wave 1 2009/11; Understanding Society wave 7 2015/17. Model 1 adjusts for ethnicity, age, age-squared, and sex. Model 2 additionally adjusts for socio-economic position. Model 3 additionally adjusts for racism and racial discrimination. Note that Model 3 for Understanding Society wave 1 is estimated on the extra five minute sample only (n=2730).

Figure 7: Relative probabilities of limiting long-term illness by ethnicity (comparison group: White/White British)

The fundamental role of racism in explaining ethnic inequalities in health and socioeconomic position

It is well-documented that racism and racial discrimination have severe and negative impacts on health outcomes (29, 49, 68, 70). The effects of racism on health have been found to operate both directly (for example, through stress pathways), and indirectly (for example, through socio-economic inequalities) (8, 26-29). A conceptual diagram is presented in Figure 8.

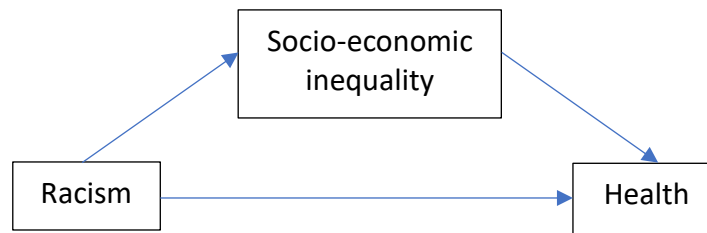


Figure 8: Conceptual diagram of the role of racism on health

In our analyses, we formally tested this mechanism using longitudinal structural equation models on 5 waves of Understanding Society, the UK Household Longitudinal Study. We repeated the analyses separately for physical and mental health outcomes, which were derived from the 12-Item Short Form Health Survey (SF-12) with values ranging from 0 to 100. Higher scores represent higher functioning health (see 47). We used a latent measure of racism as part of our statistical models. Latent measures are measures which are not observed directly, but which can be summarised using several indicators relating to the same underlying concept. We use indicators of racism based on a series of questions where respondents were asked about their experiences of four types of harassment and abuse in public in the past twelve months: have you been insulted, called names, threatened or shouted at; have you been physically attacked; have you felt unsafe; and have you avoided going to or being in public places. We derived our measures of racism based on respondents reporting harassment or abuse due to their ethnicity, nationality, or religion (8, 71). Our models also included household income, gender, and age. Our full analysis can be found in the published paper (72).

Figures 9 and 10 present the direct effects of racism on household income and on mental health and physical health over time. Table 4 presents the indirect effects of racism on income and mental and physical health over time. In our analyses, the direct effects of racism on health are represented by the connecting paths between these variables. The indirect effects are calculated as the product of all non-direct paths between racism and health, i.e., the product of the coefficients between racism and

income, and income and health, over time. The total effect is calculated as the sum of the direct effects and indirect effects between the explanatory variable of interest and the main outcome variable. By 'decomposing' the effects, we are able to ascertain how much of the effect of racism on health is direct (i.e. exists net of all other variables in the model), and how much of the effect of racism on health is indirect (i.e. operating through income and health over time). We are mindful that this is a very complex longitudinal model, and necessarily so to examine the complex mechanism of how racism affects income and health over time. In our interpretation, we concentrate on the magnitude of effect rather than statistical significance.

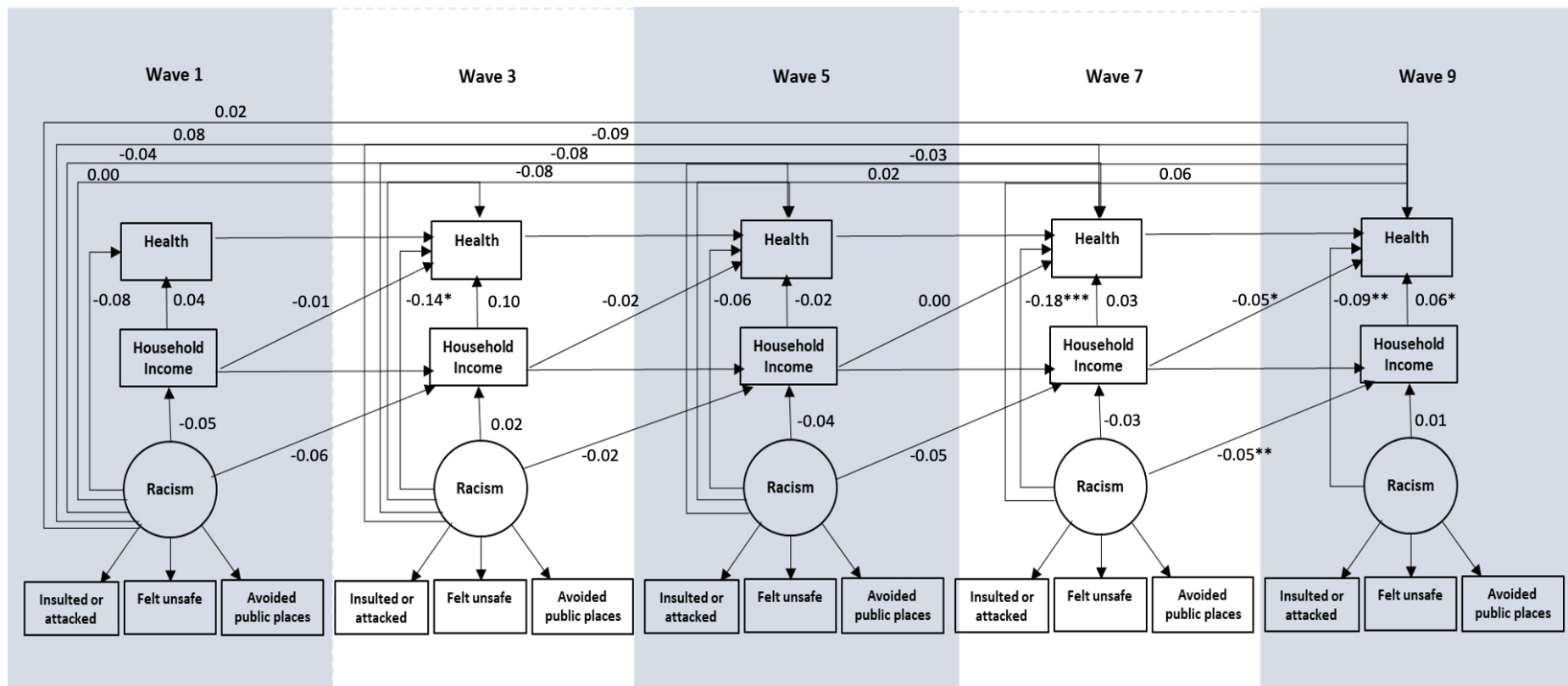


Figure 9: Direct effects of racism and income on mental health (standardised coefficients)

Source: Understanding Society waves 1, 3, 5, 7, and 9, n=4,444. Adjusted for complex survey design. Model also adjusts for age and gender. * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$.

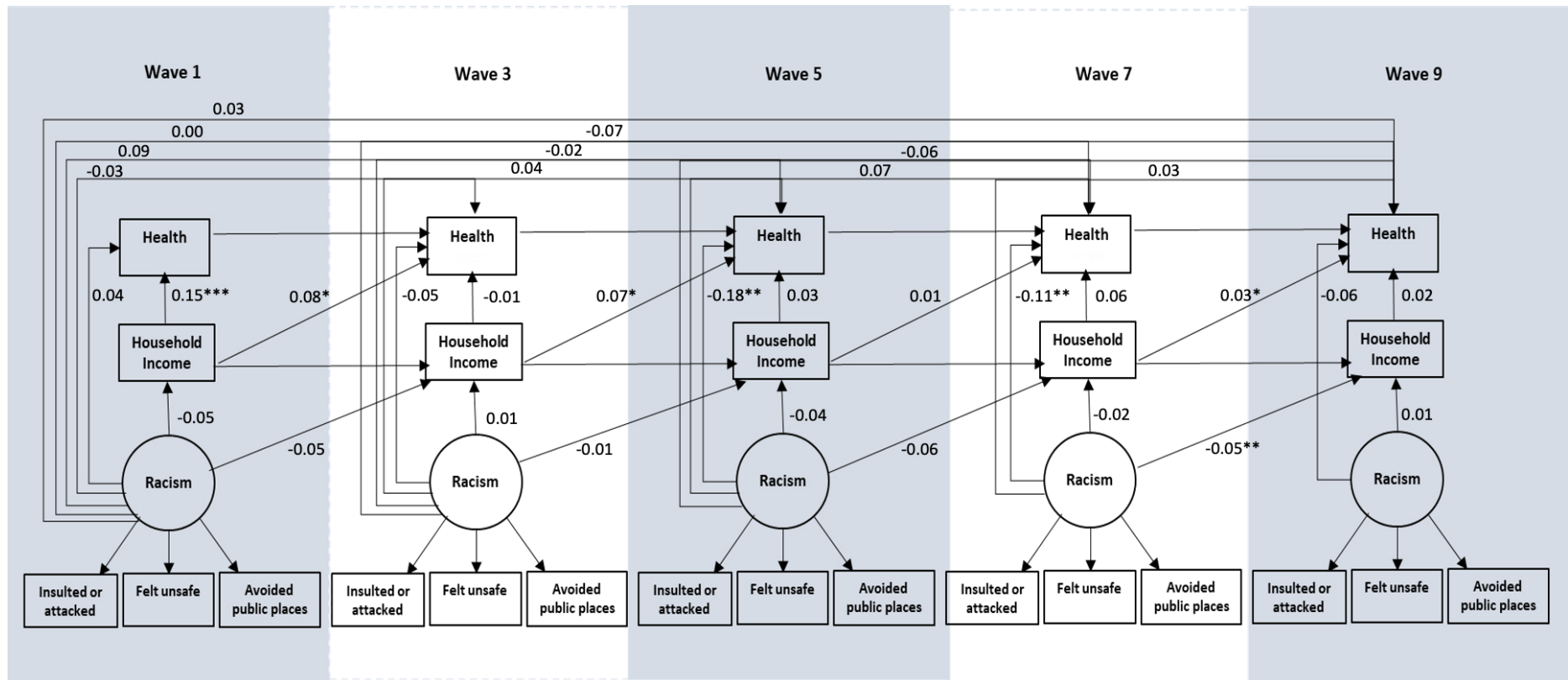


Figure 10: Direct effects of racism and income on physical health (standardised coefficients)

Source: Understanding Society waves 1, 3, 5, 7, and 9, n=4,444. Adjusted for complex survey design. Model also adjusts for age and gender. * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$.

Table 4: Indirect effects of racism on mental and physical health (standardised coefficients)

	Mental health		Physical health	
	Std. Coef.	Std. Error	Std. Coef.	Std. Error
Effects of racism wave 1 on				
<i>Income wave 3</i>	-0.03	(0.04)	-0.03	(0.04)
<i>Income wave 5</i>	-0.06	(0.05)	-0.05	(0.05)
<i>Income wave 7</i>	-0.04	(0.04)	-0.04	(0.04)
<i>Income wave 9</i>	-0.03	(0.02)	-0.02	(0.02)
<i>Health wave 1</i>	-0.00	(0.00)	-0.01	(0.01)
<i>Health wave 3</i>	-0.05	(0.02)	0.01	(0.02)
<i>Health wave 5</i>	-0.02	(0.05)	-0.02	(0.04)
<i>Health wave 7</i>	-0.03	(0.04)	0.04	(0.04)
<i>Health wave 9</i>	0.03	(0.03)	0.03	(0.03)
Effects of racism wave 3 on				
<i>Income wave 5</i>	0.02	(0.03)	0.01	(0.03)
<i>Income wave 7</i>	-0.00	(0.05)	-0.00	(0.05)
<i>Income wave 9</i>	-0.00	(0.03)	-0.00	(0.03)
<i>Health wave 3</i>	0.00	(0.01)	-0.00	(0.00)
<i>Health wave 5</i>	-0.07	(0.04)	-0.03	(0.02)
<i>Health wave 7</i>	-0.07*	(0.03)	0.01	(0.03)
<i>Health wave 9</i>	-0.07**	(0.02)	-0.00	(0.03)
Effects of racism wave 5 on				
<i>Income wave 7</i>	-0.03	(0.02)	-0.03	(0.03)
<i>Income wave 9</i>	-0.05*	(0.02)	-0.06*	(0.03)
<i>Health wave 5</i>	0.00	(0.00)	-0.00	(0.00)
<i>Health wave 7</i>	-0.03	(0.02)	-0.11**	(0.04)
<i>Health wave 9</i>	-0.00	(0.02)	-0.03	(0.03)
Effects of racism wave 7 on				
<i>Income wave 9</i>	-0.02	(0.02)	-0.01	(0.02)
<i>Health wave 7</i>	-0.00	(0.00)	-0.00	(0.00)
<i>Health wave 9</i>	-0.09***	(0.02)	-0.07**	(0.02)
Effects of racism wave 9 on				
<i>Health wave 9</i>	0.00	(0.00)	0.00	(0.00)
Effects of income wave 1 on				
<i>Health wave 3</i>	0.08*	(0.04)	0.07**	(0.03)
<i>Health wave 5</i>	0.02	(0.03)	0.13***	(0.02)
<i>Health wave 7</i>	0.02	(0.02)	0.09***	(0.02)
<i>Health wave 9</i>	0.00	(0.01)	0.07***	(0.01)
Effects of income wave 3 on				
<i>Health wave 5</i>	0.04	(0.04)	0.02	(0.03)
<i>Health wave 7</i>	0.02	(0.02)	0.08***	(0.02)
<i>Health wave 9</i>	0.00	(0.02)	0.07***	(0.01)
Effects of income wave 5 on				
<i>Health wave 7</i>	0.01	(0.03)	0.06	(0.03)
<i>Health wave 9</i>	-0.01	(0.02)	0.07**	(0.02)
Effects of income wave 7 on				
<i>Health wave 9</i>	0.05*	(0.03)	0.04	(0.02)

Source: Understanding Society waves 1, 3, 5, 7, and 9, n=4,444. Adjusted for complex survey design. Model also adjusts for age and gender. *p<0.05 **p<0.01 ***p<0.001.

There were strong direct effects of racism on health when measured in the same wave, i.e. the cross-sectional effects of racism on health. There were also strong indirect effects of racism in one wave on health in the next wave, i.e. the longitudinal effects of racism on health operating through poorer income and poorer health over time. This means that there is an immediate direct and negative impact of experiencing racism on health outcomes, as well as a longer-term indirect and negative impact of experiencing racism on health outcomes in the next wave. By contrast, there were negligible indirect effects of racism on health in the same wave (i.e. the effect of racism on health through current income), meaning that very little of the direct or immediate effect of racism operates through existing socio-economic position. Similarly, there were very small direct effects of racism in one wave on health in the next wave, meaning any experience of racism has a much greater immediate direct impact, for example due to immediate stress.

We further examined whether the effects of racism on health operate differently for people at different life stages (under 30s, 30-39, 40-49, 50-59, and over 60s). We found that there were significant and negative covariances between age and racism for the two oldest age groups: the 50-59 year olds and the over 60s. This suggests that older people were less likely to report racism. The effects of racism on both mental and physical health were very similar across all age groups, demonstrating the familiar pattern found in the all-age models: strong negative direct effects of racism on health in the same wave, and strong negative indirect effects of racism on health (operating through poorer income and poorer health over time) in the subsequent wave. There was not a significant difference in the relationship between racism and mental health by age group, suggesting that the effects of racism on mental health were consistent across all life stages. There was, however, a significant difference in the relationship between racism and physical health by age group, with a distinction between the under 30s and all other age groups. The full results of this analysis can be found in the published paper (72).

Discussion

It is well-documented that people from minoritised ethnic groups are more likely to be disadvantaged on a number of socio-economic axes across the life course. For example, there is clear evidence that people from minoritised ethnic groups are more likely to live in poverty (73), be disadvantaged in the labour market (74), and live in more deprived areas (19). Evidence further demonstrates worse economic outcomes in terms of job prospects, educational outcomes, and housing options (75). Evandrou (12) noted that older ethnic minority people also faced substantial socio-economic inequalities, and Kapadia, Nazroo (22) illustrated that these inequalities may be worse in later life. However, the socio-economic inequalities that are faced by older people from minoritised ethnic

groups has not been the focus of much research in this area. Instead, researchers have tended to concentrate on health, social isolation or the pension gap. This is a marked omission, especially as the socio-economic inequalities prevalent across the life course are directly related to the outcomes observed in later life. Even more limited, is the consideration of the role of racism in patterning socio-economic inequalities over the life course and between generations.

The accumulation of social and economic disadvantage for people from minoritised ethnic groups, for example in employment, earnings, housing, and neighbourhoods, are underpinned by structural and institutional racism (76). In turn, this accumulation of disadvantage has long-term effects on poorer health outcomes (5, 13, 28, 30-33). The 'weathering' hypothesis explains the gradual decline of health for people from minoritised ethnic groups who experience enduring social and economic disadvantage (35). In our analyses, we observed how socio-economic position explained a lot of the ethnic health inequality gap, particularly for those who were also the most socio-economically disadvantaged. Previous research has shown the cumulative effect of racist experiences on mental health (8), and the negative impact of experiencing racism vicariously, e.g., through family members, on ethnic minority people's health (36, 37). This is likely to lead to increased ethnic inequalities in health and wellbeing in later life.

Experiences of racism and racial discrimination have been found to be negatively associated with physical health outcomes including hypertension (26, 77, 78), cardiovascular disease (79), and self-reported health (26, 49, 70, 80, 81). Experiences of racism and racial discrimination are also associated with mental health outcomes, such as psychological distress or depressive symptoms (8, 71, 82), severe mental illness (26, 76, 83), and self-esteem or life satisfaction (see 84).

Experiences of racism and racial discrimination also underpin socio-economic inequality. In our initial logistic regression models of health adjusting for socio-economic position and racism, we found that socio-economic position explained a large proportion of ethnic health inequalities, and racism explained relatively less of the gap. However, by using more complex models and unpacking the relationship further, we were able to examine the mechanism through which racism affects health. We observed clear direct and indirect effects of racism on health, whereby much of the direct effect of racism on health occurred within the same wave, i.e. contemporaneously. We also found that most of the indirect effects of racism on health was operating through socio-economic position in a subsequent wave, i.e. the longitudinal effects of racism on health. This has been routinely theorised in the literature but rarely empirically tested using large scale, nationally representative data.

We observed that people in the oldest age groups tended to report racism to a much lesser extent than younger people in the sample. The under-reporting of racism by older people has similarly been documented elsewhere (31, 85). There are a number of potential explanations, for example, a desensitisation to racism as a result of sustained experiences, or that older people may become less exposed to racism after withdrawing from the workplace. Nonetheless, not reporting racism does not remove the negative health impact caused by the experience, which is highly consistent across all age groups for mental health, and for all age groups over the age of 30 for physical health. Indeed, the effects of income on mental and physical health tended to be greater for the older age groups, which might suggest that the effects of previous discrimination may operate more strongly on the health of older people. Life course accumulation of disadvantage, for example due to lower paid and more insecure employment, may result in a stronger effect on health in later life.

Summary

We unpacked the role of racism on health via socio-economic inequality, the impact of racism over time, and the differences in the effects of racism at different stages across the life course. Our findings clearly indicate that exposure to racism severely and negatively impacts the health of people from minoritised ethnic groups. Repeated exposure to racism leads to an accumulation of disadvantage and poorer health outcomes over the life course.

5 Overall Conclusions

The central message from our research is that there are stark ethnic inequalities in health and socio-economic outcomes in later life for most minoritised ethnic groups, when compared to the white majority group. This is in line with the wealth of studies which consistently report that there are ethnic inequalities in health at every stage of the life course (10, 13, 14, 50-53). We find that racism is a key driver of ethnic inequalities in later life for both socio-economic and health outcomes. There is a growing academic debate around the role of individual- and area-level deprivation in leading to ethnic inequalities in health, but our work documents the role of racism in patterning ethnic inequalities in socio-economic position in the first place.

Despite stark ethnic inequalities in later life there is a dearth of policies focused on addressing and preventing ethnic inequalities in mid to later life. This gap sustains ethnic inequalities in later life, and reproduces the transmission of disadvantage or privilege across generations. Policy and academic debates around ethnic inequalities focus almost entirely on socio-economic factors, and largely ignore the underlying processes of structural, institutional and interpersonal racism (see 44, 86). We have emphasised the role of racism in our work, and we argue for its centrality in ongoing research into ethnic inequalities in health and socio-economic circumstances.

At the outset of this project, we acknowledged a large data and evidence gap relating to ethnic inequalities in later life. Our central objective was to address this important gap. A major obstacle to overcome was the lack of appropriate data to study ageing outside of the White British normative. Our approach is innovative because, in the absence of adequate life course data for people from minoritised ethnic groups in the UK, we have been able to approximate a life course interpretation through the combination of analyses over chronological time and by different life stages. This enables a consideration of the processes of accumulation and the importance of the life course.

Considering the body of evidence we have presented in this report and throughout this project, our main **policy recommendations** are:

- Produce and implement a national race equality strategy with a clear plan to tackle ethnic health inequalities to prevent the worsening of these inequalities in old age.
- Address socio-economic disadvantage over the life course, and provide socio-economic support in later life to redress inequalities in income and occupation.
- Recognise and address the role of racism and racial discrimination in patterning social and health inequalities for ethnic minority groups.

- Close the ethnicity data gap: ethnicity data reporting must be truly mandatory in all official and statutory statistics and data monitoring. We emphasise that there needs to be a stronger investment in data and research infrastructure to document ethnic inequities in later life. To effectively document and understand ethnic health inequalities in later life and identify drivers of healthy ageing for ethnic minority people, studies must include suitable sampling designs with representative and sufficiently large samples of ethnic minority groups. Surveys must include questions on ethnicity, identity, and key determinants, such as experiences of racism and racial discrimination.
- Use disaggregated categories (e.g. Pakistani, Bangladeshi, Indian, Other Asian) instead of overarching ethnic categories (e.g. Asian or BAME) to more precisely reflect the experiences of ethnic minority groups.

6 Project Outputs

Peer-reviewed journal articles

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

Stopforth, S., Kapadia, D., Nazroo, J., & Bécares, L. (2022). The enduring effects of racism on health: Understanding direct and indirect effects over time. *SSM – Population Health*, 19:101217.

Book Chapters

Stopforth, S., Bécares, L., Nazroo, J., & Kapadia, D. (2021). A life course approach to understanding ethnic health inequalities in later life: an example using the United Kingdom as national context. In: Pollock, G., & Nico, M (Eds.). *International Routledge Handbook on Inequalities and the Life Course* (pp. 383-393). Abingdon, Oxon: Routledge.

Policy Briefs

Bécares, L., Stopforth, S., Nazroo, J., & Kapadia, D. (2023). Racism, socioeconomic inequalities, and health. Available at: <https://raceequalityfoundation.org.uk/health-and-care/racism-is-the-root-cause-of-ethnic-inequalities-in-health-briefing-paper/>

Videos

Racism, socioeconomic inequalities, and health. Available at: <https://raceequalityfoundation.org.uk/health-and-care/racism-is-the-root-cause-of-ethnic-inequalities-in-health-briefing-paper/>

Ethnic inequalities in later life. Available at: <https://youtu.be/qosNdWnKaAM>

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