



HM Government

Final report on progress to address COVID-19 health inequalities

December 2021

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Contents

Introduction	4
Overview and executive summary	5
1. Measures to address COVID-19 disparities	10
Recommendations	20
2. Data and evidence of disparities	21
Recommendations	36
3. Data quality	37
Recommendations	45
4. Stakeholder engagement and insights	46
Recommendations	53
5. Communications	55
Recommendations	66
Annex A: Terms of reference	67
Annex B: Progress implementing recommendations and next steps from first 3 reports	68
Annex C: Ethnic minority experiences of COVID-19	79
Annex D: Further data and evidence	94
Annex E: Is ethnicity a risk factor for infection or mortality from COVID-19?	130
Annex F: Prioritisation and progress of data quality recommendations	133

Introduction

Following publication of the Public Health England (PHE) report *COVID-19: review of disparities in risks and outcomes*¹ in June 2020, the Prime Minister and the Secretary of State for Health and Social Care asked the Minister for Equalities, Kemi Badenoch MP, with support from the Cabinet Office Race Disparity Unit (RDU), to lead cross-government work to address the report's findings.

Under the terms of reference for this work, which are set out in Annex A, the Minister for Equalities was tasked with submitting quarterly progress reports to the Prime Minister. This is the fourth and final progress report, following those published on 22 October, 26 February and 25 May.

This final report provides a further update on cross-government work to address the disparities highlighted by the PHE report. It looks back to previous quarters and sets out how our understanding of and response to the pandemic changed over the lifecycle of this work. The report also includes a summary of progress against recommendations from previous reports (Annex B), lessons learnt from this work and an action plan for addressing some of the longer-term issues identified during the course of this project.

This report should be read alongside the government's forthcoming response to the report of the Commission on Race and Ethnic Disparities, which will include actions to address longer-term health inequalities which are likely to have been a contributory factor to the disproportionate impact COVID-19 has had on ethnic minority groups.

**Race Disparity Unit, Cabinet Office
December 2021**

¹ <https://www.gov.uk/government/publications/covid-19-review-of-disparities-in-risks-and-outcomes>

Overview and executive summary

In June 2020, the Prime Minister and the Secretary of State for Health and Social Care asked the Minister for Equalities to look at why COVID-19 was having a disproportionate impact on ethnic minority groups and to consider how the government response to this could be improved.

At that time, we knew that ethnic minorities were more likely to be infected and to die from COVID-19, but we did not know why. In order to shape the government's response, our first priority was to work with universities, other government departments, the Office for National Statistics and other experts to understand the drivers behind these disparities. This included new research projects backed by over £7 million in government funding.

Thanks to this work, our understanding of the risk factors affecting ethnic minorities became much clearer. We now know:

- The main factors behind the higher risk of COVID-19 infection for ethnic minority groups include occupation (particularly for those in frontline roles, such as NHS workers), living with children in multigenerational households, and living in densely-populated urban areas with poor air quality and higher levels of deprivation
- Once a person is infected, factors such as older age, male sex, having a disability or a pre-existing health condition (such as diabetes) are likely to increase the risk of dying from COVID-19
- While ethnicity itself was not thought to be a risk factor, recent research by Oxford University identified the gene responsible for doubling the risk of respiratory failure from COVID-19, carried by 61% of people with South Asian ancestry. This goes some way to explaining the higher death rates and hospitalisations in that group

These insights have been crucial in shaping the government's response to COVID-19.

Our early efforts, informed by the emerging data and scientific advice, focused on preventing the risk of infection and protecting key frontline workers who were most at risk. This included risk-assessing over 95% of frontline NHS staff by September 2020 and publishing guidance on how to make workplaces secure for those who were not able to work from home.

Our approach evolved as our understanding of the risk factors developed. For example, in the second wave of the pandemic, the risk of dying from COVID-19 was much higher for the Bangladeshi and Pakistani ethnic groups. In response, we introduced measures designed to protect those from South Asian groups. This included guidance on preventing household transmission, which was particularly important given the higher percentage of people from the Bangladeshi and Pakistani ethnic groups living in multi-generational homes, and measures to protect taxi drivers, over half of whom are from an ethnic minority background.

The most significant measure to protect ethnic minorities from the risk of COVID-19 infection and to save lives has been the vaccination programme. The government led the world in terms of the scale of our programme to approve, procure and deploy the COVID-19 vaccines. The largest mass-vaccination programme in British history has been delivered

through an unprecedented partnership approach between national and local government, health agencies, and the voluntary and community sector.

This began with early measures ahead of deployment to build trust with ethnic minority groups, recognising that they were more likely to be reluctant to be vaccinated. This included funding a project that developed a framework to support inclusion of ethnic minority participants in COVID-19 research, and 2 ethnic minority government ministers taking part in vaccine trials.

Once deployment began, the government worked with national and local partners to promote vaccine uptake among ethnic minority groups and to tackle misinformation through a series of targeted and highly innovative interventions including:

- Using around 50 places of worship as vaccination centres, with many more acting as pop up venues
- Taking the vaccines into the hearts of local communities through initiatives such as vaccination buses and taxis
- Reacting quickly to lower vaccine uptake rates within particular ethnic groups with targeted campaigns to address vaccine concerns and promote uptake, linking in with key religious festivals such as Easter and Ramadan
- Providing over £7 million of government funding to local sustainability and transformation partnerships to support and enable locally-led community engagement in all areas with health inequalities
- Working with trusted voices such as faith leaders and prominent ethnic minority celebrities and influencers to build trust and encourage vaccination uptake
- Tackling vaccine misinformation through myth-busting content and targeted approaches on social media channels, such as clarifying concerns around vaccine ingredients (which was important on religious grounds) and perceived links to fertility and pregnancy

A key element of this is the government's Community Champion scheme launched in January 2021 and backed by over £23 million in funding. Independent analysis shows that the scheme had a positive impact on vaccination rates, as well as other benefits such as a better understanding of barriers to support faced by communities.

Through these combined efforts we have seen increases in both positive vaccine sentiment and vaccine uptake across all ethnic groups since vaccine deployment began.

There are a number of wider public health lessons to be learned in relation to ethnic minorities including:

- Ensuring the success of vaccination deployment is carried over to other public health programmes, such as winter flu and COVID-19 booster vaccinations. This includes continuing to use respected local voices to build trust within ethnic minority groups and to help tackle misinformation
- Not treating ethnic minorities as a homogenous group – COVID-19 has affected different ethnic groups in different ways throughout the pandemic and a 'one size fits all' approach is not an effective way of tackling public health issues

- Avoiding stigmatising ethnic minorities by singling them out for special treatment, which could be taken to imply that they are vulnerable or, in the case of COVID-19, were somehow at fault for the spread of the virus
- Improving the quality of health ethnicity data so that patterns and trends can be spotted quicker in future

To ensure that we learn these lessons and that we improve the health outcomes for ethnic minorities, we make a number of recommendations.

Many of these are for the Department of Health and Social Care (DHSC) and the new Office for Health Improvement and Disparities (OHID), who will lead this work going forward.

Recommendations

This report makes the following recommendations, which the Prime Minister has accepted in full:

- The government and health agencies must build on the success of the COVID-19 vaccination deployment programme in reaching ethnic minority groups and apply this to future vaccination programmes, including COVID-19 booster vaccinations, winter flu vaccination and childhood immunisation programmes.
- In order to reassure ethnic minority groups and encourage uptake, the government must ensure there is clarity in the communications about the need for COVID-19 boosters and the longer-term plan for COVID-19 vaccination.
- To reassure pregnant women that the COVID-19 vaccine is safe, the government should continue to deliver clear messaging through trusted voices and via social media.
- Government departments, their agencies and the NHS must continue to build trust in health services within ethnic minority groups through optimising and building on the local partnerships and networks established under the vaccination programme.
- The successful elements of the vaccination programme must also be applied to the work to tackle longer-standing health disparities. This must be a priority for the new Office for Health Improvement and Disparities and its partners.
- To build confidence in future vaccination schemes and other health interventions, the National Institute for Health Research and the NHS Race and Health Observatory should seek to increase ethnic minority participation in clinical trials and research through methods such as promoting the INCLUDE Ethnicity Framework.
- The government should continue to monitor the impacts of COVID-19 by ethnicity as the virus evolves. This may include:
 - measuring survival analysis over time
 - monitoring vaccine uptake among 16 to 18 year olds and 12 to 15 year olds and uptake of the booster vaccine
- The findings and recommendations from this series of reports should be applied to the government's response to future COVID-19 variants.
- DHSC should continue to consider the set of interdependent UISPC recommendations proposed by NHS England to improve the quality of ethnicity data coding, and should outline responsibilities to relevant leads.
- ONS should collaborate with the other relevant health departments and consider how linking health and Census data could be improved and extended to facilitate more reliable, timely and detailed estimates of ethnic health disparities on a regular basis.

- Relevant health departments and agencies should review and action existing requests for health data, and undertake an independent strategic review of the dissemination of healthcare data and the publication of statistics and analysis.
- NHS Digital should include the proportion of records coded as not known, not stated, an 'other' group and 'any other ethnic group' in the NHS Data Quality Maturity Index.
- RDU will discuss ways to improve guidance and signposting for health statistics with the English Health Statistics Steering Group.
- A Programme Board, involving representatives of the user community and other relevant stakeholders (including the devolved administrations), should oversee implementation of these priorities and should publish regular reports of progress.
- The government and health agencies must implement the lessons learnt from the COVID-19 insights work and in particular:
 - Address specific ethnic minority groups rather than a homogenous group (through for example use of the term 'BAME') and
 - Ensure that public health communications do not stigmatise ethnic minorities when explaining that they may be more vulnerable or at higher risk
- The government should carry out a review of language and terminology around ethnicity to understand how to target messaging without stigmatising any particular group.
- The government should use the COVID-19 experience of reaching ethnic minority groups for future public health campaigns. This should include activities to:
 - Develop and provide materials in multiple languages and formats, including BSL, easy read and audible formats, to ensure content addresses any difficulties to reach diverse audiences
 - Build on community partnerships and work closely with local networks to improve understanding and gain insight into the audience
 - Utilise community partners to co-create content and tailor communications that resonate with key audiences
 - Communicate key messages through community partners and specialist media and digital channels, using trusted voices to land messaging where necessary

1. Measures to address COVID-19 disparities

This chapter summarises government work to address COVID-19 disparities since the end of May 2021. This work has continued to focus on improving vaccine confidence and promoting vaccine uptake among ethnic minorities through a range of measures, including the Community Champions scheme. Tackling the higher levels of COVID-19 infection in deprived communities through initiatives such as enhanced testing has been a primary focus.

This chapter also considers the government's overall approach to tackling COVID-19 disparities since this review commenced in June 2020, summarising and assessing the effectiveness of government interventions, considering lessons learned over this period and making recommendations for how this work should be taken forward.

Update on new measures since May 2021

Promoting vaccine uptake

The government's efforts to tackle COVID-19 disparities have continued to focus on building vaccine confidence and promoting vaccine uptake. Key measures over the last period include:

- Producing videos with faith and business leaders from the Bangladeshi community and delivering a webinar in partnership with Bangladesh Caterers Association (with contributions from the Minister for COVID-19 Vaccine Deployment and the Minister for Small Business, Consumers and Labour Markets) to increase vaccine uptake amongst the Bangladeshi group
- Activity around the Eid al-Adha celebrations in July, including a 'Safe Eid' Webinar facilitated by the British Islamic Medical Association and featuring the Minister for COVID-19 Vaccine Deployment, the Chief Medical Officer and a range of faith and clinical leaders. This was live-streamed via Facebook
- Producing a video promoting vaccine uptake among healthcare workers. This featured a broad range of ethnic minorities and was shared on social media² with almost 5,000 views
- Measures to increase uptake in Indian groups including a webinar with Dr Binita Kane, South Asian Heritage Month co-founder and respiratory consultant, and Dr Harpreet Sood, GP and NHS England Clinical Advisor for the COVID-19 Vaccine programme
- Developing co-branded videos with messaging from black majority churches across NHS channels, Churches Together in England and community-specific media channels
- Producing videos aimed at young black audiences at the end of August to address lower uptake among this group
- To encourage as many people as possible to come forward for vaccination in order to protect local communities, Public Health England produced 2 animations explaining

² <https://twitter.com/NHSEngland/status/1414857189307691014>

- migrants' entitlement to vaccination, while pop-up clinics in a Holiday Inn vaccinated those without permanent residency or an NHS number
- A youth vaccination campaign partnering with The Shade Borough and youth radio stations such as Pai.Radi, Unity Radio and Rinse targeting ethnic minority groups
 - A new NHS video, Winter Vaccines Explained³ with Dr Amir Khan and Dr Karan Ranj, which explains to the public how COVID-19 and flu spread. They reiterate the need for the annual flu vaccine and the COVID-19 booster vaccine
 - England's Chief Midwifery Officer shared videos in October 2021 reassuring pregnant women that the COVID-19 vaccine is safe, as research shows pregnant women are more likely to become seriously ill from COVID-19⁴

'Bridging the Uptake Gap' toolkit

To address lower vaccine uptake rates among the Black African and Black Caribbean groups, the NHS – in partnership with the Caribbean and African Health Network – produced the 'Bridging the Gap' toolkit. Based on the latest evidence and best practice, the toolkit was launched in June and comprises 6 components:

- Data and population behavioural insights to help users gain a detailed understanding of local Black African and Black African Caribbean populations, identify gaps in uptake and facilitate targeting of initiatives
- Encouraging vaccine uptake in these groups by removing barriers
- Sharing what works via the NHS Connect and Exchange Hub and encouraging users to post useful material
- Using high-profile and trusted voices to support vaccine uptake, with advice on how to communicate clearly with target audiences
- Using targeted conversations to boost vaccine confidence – for example, hosting a series of clinically-led, online dialogues using trusted voices to engage black groups
- Encouraging use of venues for mobile and pop-up vaccination centres that the target audience feel comfortable with and frequently visit, such as places of worship, community organisations and schools

The toolkit was shared with system partners to support their work to reach all communities. 160 stakeholders attended the launch event.

³ <https://www.youtube.com/watch?v=QQitHblXyN8>

⁴ <https://www.england.nhs.uk/2021/10/nhs-encourages-pregnant-women-to-get-covid-19-vaccine/>

Community Champions

One of the main elements in the programme to drive vaccine uptake is the Community Champions scheme, announced in the first of these reports last year and formally launched in January. Local authorities report that over 14,000 Community Champions have been recruited under this scheme.

These Champions continue to support a range of interventions to build upon, increase or improve existing activities to work with residents who are most at risk of COVID-19. Initiatives over the last period include:

- In Great Yarmouth, Community champions knocked on over 900 doors ahead of a Vaccination Bus visiting the community, helping the NHS team vaccinate those who might not otherwise have come forward
- In Leeds, Community Champions supported and promoted a roving vaccination bus which vaccinated close to 3,000 people. They also supported enhanced testing resulting in over 27,000 tests being completed
- In Salford, engagement work to support the local vaccination bus led to 150 residents per day being vaccinated. These were people who had not previously taken up invitations to large-scale vaccination sites
- In Sunderland, the local authority has been rolling out a COVID-19 myth-busting programme, developed by the Community Champions, via all schools in the area

NHS Test and Trace

As restrictions were eased over the summer, NHS Test and Trace (NHSTT) has ensured that those who have been worst hit by COVID-19 are protected and supported. Measures include:

- The Pharmacy Collect service. Providing an additional route to regular testing, the service facilitates access to testing for people without COVID-19 symptoms. Over 97% of pharmacies across England are now providing tests, having handed out over 159 million tests so far. 80% of the population in England has access to a community pharmacy within a 20 minute walk and there are now 2 to 3 times more such pharmacies in deprived areas than in more affluent areas
- Increasing targeted community testing in disproportionately impacted groups and among employees of small businesses, and conducting workforce testing in higher-risk occupations. Since 1 July, over 1 million supervised tests have been carried out under targeted community testing. Community testing has proven to have a 4-times-higher positivity rate than other types of asymptomatic testing
- The Department for Education worked with the Cabinet Office marketing team to deliver an autumn term return campaign targeting students in higher education and further education, encouraging asymptomatic testing

Review of medical devices

In November 2021, the Secretary of State for Health and Social Care launched an investigation into the effectiveness of medical equipment on different races. This followed concerns raised about pulse oximeters, which can be useful for monitoring patients at risk

from COVID-19, and the accuracy of readings for those with darker pigmentation and skin tones.

Summary of government's approach since June 2020

This section considers the government's overall approach to tackling COVID-19 disparities since June 2020, when this review commenced, and assesses the effectiveness of the interventions put in place.

Actions to prevent the spread of infection

In the early stages of this review, departments and their agencies acted quickly to address the disproportionate impact of COVID-19 on ethnic minority groups. Initially, government activity focused on preventing the spread of the virus across the population, and on protecting the most at-risk workers.

Frontline NHS workers were one of the groups directly at risk. Having an appropriately fitting mask is essential for effective protection. Early measures to protect them included the NHSEI (NHS England and NHS Improvement) FFP3 mask fit-testing project led by the Deputy Chief Nursing Officer. This collected data from over 5,500 participants from a range of backgrounds and across 47 NHS Trusts. Since this project was initiated, a further 8 types of masks have been made available, and over 16 different models are now supplied, providing a portfolio of different shapes and sizes to cater to a diverse range of users. The increased range and diversity of FFP3 masks makes it easier for NHS staff to find a mask that fits.

In April 2020, NHSEI asked the leaders of local organisations to risk-assess their staff who were at potentially greater risk of serious illness from COVID-19, including ethnic minority staff. Trusts and staff then agreed to make appropriate arrangements to protect employee health, safety and welfare. By September that year, the NHS was reporting that over 95% of staff from ethnic minority backgrounds had taken up such an assessment and agreed any necessary mitigations.

- Reducing workplace risk

As the government's understanding of the risk factors changed, so did its approach to addressing COVID-19 disparities, particularly in relation to workplace risk. In summer 2020, the Scientific Advisory Group for Emergencies (SAGE) commissioned PHE, the Faculty of Occupational Medicine and the Health and Safety Executive (HSE) to look specifically at mitigating the risk of COVID-19 for ethnic minority workers. The consensus was that risk assessments should be applied equally and consistently across the workforce, in any workplace. Controls put in place must consider all relevant risk factors, and not just a person's ethnicity. The group concluded that singling out all ethnic minority staff for additional risk assessments could be stigmatising and could deny them opportunities in the workplace. Unnecessarily removing them from all frontline duties could risk impinging on career progression.

This approach was reflected in updated guidance to employers on how to make workplaces COVID-secure. HSE issued this guidance in September 2020, updating it in October 2021. The Safer Workplace guidance has received over 3.73 million unique page views since May

2020. Across all business sectors, 97% of businesses said they were aware of the Safer Working guidance⁵.

Targeted initiatives that would disproportionately benefit ethnic minorities kept a focus on avoiding stigmatisation. For example, the government made face coverings for passengers in taxi and private hire vehicles (PHV) mandatory from September 2020. Taxi and PHV drivers were considered to be particularly at risk from COVID-19, as 98% are male and 53% are from an ethnic minority background. In November 2020, the Department for Transport issued guidance to taxi and PHV drivers, owners and operators on protective actions they can take against COVID-19, followed by further guidance in March 2021 on installing safety screens in vehicles.

- Test and Trace

Since June 2020, NHSTT data has shown a 53% increase in uptake of testing services by ethnic minorities.

Early NHSTT measures included piloting community-led, localised, asymptomatic testing at places of worship in areas with larger ethnic minority populations. These initiatives aimed to remove some of the main barriers identified to engaging with Test and Trace, including trust and access. These reported significant successes.

NHSTT has also driven locally-led activity to support the people and places most affected by COVID-19, using measures such as monthly update webinars for community organisations, and faith and voluntary sector leaders, which has helped spread messages about test and trace through trusted local voices. This has been a particularly effective way of reaching disproportionately impacted groups who may otherwise feel mistrustful of 'official' channels.

In recognition of the scale of the impact of COVID-19, translation services in more than 200 languages via the 119 call centre have been provided and accessed tens of thousands of times to date. The Test and Trace Support Payment scheme was also launched in September 2020 to help people on low incomes who will experience financial hardship if they have to self-isolate. To date, NHSTT has made £176 million available to local authorities in England to run the scheme.

- Measures to protect those impacted by the second wave

Throughout the pandemic, the government's approach has been driven by the emerging data. As the early data from the second wave began to show a disproportionate impact of COVID-19 on the Bangladeshi and Pakistani groups, the government took measures to protect these groups from the risk of infection.

As well as measures to protect taxi drivers, the government published new guidance to those living in shared and overcrowded housing on reducing the risk of infection. This is particularly important for those living in multi-generational homes, which may be a factor behind the higher

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<https://www.ons.gov.uk/economy/economicoutputandproductivity/output/datasets/businessimpactofcovid19surveybicsresultsno>

death rates seen in the Bangladeshi and Pakistani ethnic groups. The guidance was translated into a range of languages, including Bengali and Urdu.

NHSEI also trialled group family vaccinations, aimed at those living in multigenerational households. This innovative approach was an example of how to design an intervention which benefits the entire eligible population but stands to disproportionately benefit ethnic minorities because they are more likely to live in a multi-generational home. This experience reinforced how important local engagement and conversations are key to building vaccine confidence.

Vaccine deployment

It was always known that vaccines would be the best way out of the pandemic and the best way to protect people from COVID-19. That is why the government moved fast and early, supporting ground-breaking research from January 2020. The Vaccine Taskforce then procured and delivered vaccines to support the largest mass-vaccination programme in British history.

Past experience of vaccination programmes indicated that uptake was likely to be lower amongst ethnic minorities. That is why in July 2020, well before vaccine deployment, the government provided funding for Professor Shaun Treweek's project testing a framework to support inclusion of ethnic minority participants in COVID-19 research. This led to development of the 'INCLUDE Ethnicity Framework'⁶, which aims to help trial teams think carefully about which ethnic groups should be included in their trial for its results to be widely applicable, and what challenges there may be to making this possible.

Lower ethnic minority participation in vaccine trials was also the driver behind the Minister for Equalities and the former Minister for COVID-19 Vaccine Deployment both taking part in the Novavax vaccine trial. Their participation was highly symbolic and was reported by the media at the time and the Minister for Equalities and former Business Secretary wrote to all MPs encouraging them to promote ethnic minority participation in COVID-19 vaccine trials.

DHSC published the UK COVID-19 vaccines uptake plan in January,⁷ setting out the government's approach to vaccination. This was based on advice from the Joint Committee on Vaccination and Immunisation (JCVI) on prioritising the roll out. JCVI advised that good vaccine coverage in ethnic minority groups would be the most important factor in reducing disparities in outcomes for these groups.

The strategy announced that a dedicated team would support effective communication with ethnic minority healthcare workers, headed by the NHSEI Medical Director of Primary Care and NHS Chief People Officer. This was in recognition of healthcare workers' roles as advocates and leaders within their own communities.

Also in January, in response to the emerging data that showed lower levels of uptake among ethnic minority groups, NHS England established a Vaccine Deployment Equalities Committee. Bringing together government departments with national representatives from

⁶ <https://www.trialforge.org/trial-forge-centre/include/>

⁷ <https://www.gov.uk/government/publications/uk-covid-19-vaccines-delivery-plan>

the Association of Directors of Public Health, local authorities, fire and police services and third sector organisations, the Committee advised and guided the vaccine deployment programme on addressing inequalities.

This group has led work on a number of initiatives, including:

- The guide to vaccination in places of worship
- The Ramadan guide
- The 'Bridging the Uptake Gap' toolkit
- A national bank of resources including best practice, case studies and patient stories that can be used at a local level to promote vaccine uptake - the Vaccine Equalities Connect and Exchange Hub - which has over 2,000 members across the country

Other significant initiatives to promote vaccine uptake and tackle misinformation include:

- An extensive communications campaign, which is summarised in Chapter 4
- Allocating over £7 million of funding to local sustainability and transformation partnerships to support and enable locally-led community engagement in all areas with health inequalities
- Working with faith leaders to promote vaccine uptake, including setting up vaccination centres in around 50 places of worship and using many more as pop-up venues
- Bespoke programmes to increase COVID-19 vaccine confidence in Black African, Black Caribbean, Bangladeshi and other groups, working with religious leaders, other trusted community voices and ethnic minority healthcare workers
- Initiatives targeting religious events such as Easter and Ramadan to address vaccine concerns and promote uptake
- Supporting and advocating the use of mobile and community vaccine pop-ups to increase access to underserved communities, culminating in the launch of the national 'Grab-A-Jab' programme from July
- Use of vaccination buses that travelled to specific locations, agreed through partnerships with the community, to support increased confidence and outreach, such as the bus in Crawley used to drive uptake in the Hindu community
- A number of measures to improve uptake among ethnic minority healthcare professionals including webinars and question and answer sessions with ethnic minority medics. The government has also recently announced that health and social care providers in England will be required to ensure workers are fully vaccinated against COVID-19, unless they are exempt, as a means of protecting both patients and workers
- Producing a video with the Chief Midwifery Officer, Professor Jacqueline Dunkley-Bent and midwives around the country to address pregnancy and infertility concerns

By the end of May, these initiatives had led to increases in both positive vaccine sentiment and vaccine uptake across all ethnic groups, with vaccine confidence increasing in 3 consecutive research periods. This trend has continued. For example, between 31 May and 31 October, the percentage of over-50s who received both doses of the COVID-19 vaccine increased in all ethnic groups. The largest percentage point increases were in the Pakistani

ethnic group (from 54.2% to 78.8%, up by 24.6 percentage points) and Bangladeshi ethnic group (from 63.7% to 87.0%, up by 23.3 percentage points).

Improving vaccine uptake among the Bangladeshi ethnic group

In January and February 2021, uptake in the Bangladeshi group was lower than all other Asian or Asian British groups. This was a particular concern given the disproportionate impact the second wave of the pandemic was having on this group.

The lower rate appeared to be down to a range of factors including a lack of confidence in the vaccine, general complacency about the need to be vaccinated (often linked to language barriers) and an inability to access the vaccine in local areas.

This was tackled through a combination of national communications and engagement efforts, coupled with local activity including:

- A national awareness campaign lead by Great British Bake Off winner Nadiya Hussain, Asma Khan from Netflix's Chef's Table and BBC Masterchef winner Saliha Mahmood
- The 100 Faces campaign, which used images of influential Bangladeshi personalities including clinicians, Imams or Islamic scholars, community activists, restaurant and business owners and other trusted local voices, and was amplified through social media channels and BBC Asian Radio
- Regular open and transparent dialogue and live information sessions with trusted voices using community media channels
- 50 Bangladeshi freedom fighters giving 50 vaccinations on the 50th anniversary of Bangladeshi independence
- Using the premise of 'Jab for Jalfrezi' as takeaway tokens, Bengali restaurateurs encouraged uptake in the community. Led by the Bangladeshi Catering Association, this reached over 12,000 UK based Bangladeshi-owned takeaways and restaurants and aired on Bangladeshi community TV
- Recording information videos in Sylheti by GPs on Ramadan and the COVID-19 Vaccination, and a faith-based video that formed the basis of a national WhatsApp campaign
- Using Bangladeshi Community TV stations Channel S and TV One to air vaccination information and dialogue sessions

In late February and March 2021 there was a marked increase in vaccination rates among the Bangladeshi ethnic group, and rates have continued to rise since then.

National and local partnerships

A central part of the government's work to address COVID-19 disparities and to drive up vaccination rates has been the partnership with local authorities and local communities. Key to this is the Community Champions scheme. The first of the Minister for Equalities' quarterly

reports announced the scheme, which was then launched in January 2021. The scheme allocated £23.75 million in funding to 60 councils across England to build on or improve existing activities with at-risk residents from each local authority. In addition, surge funding was provided to 'Strengthening Faith Institutions' and 'Near Neighbours' in order to utilise their established access into 'hard-to-reach' communities. This extended the Community Champions scheme beyond the 60 participating councils.

In-depth analysis of some areas has shown positive outcomes and demonstrates how government funding has amplified local initiatives and produced greater coordination between local authorities, the third sector and community organisations in these areas. Reported benefits include increased trust and cohesion between local authorities and community organisations, greater coordination of voluntary sector activities, increased understanding of communities' barriers to access support, and agile provision of support aligned with community needs.

Analysis of some areas has shown increased vaccination uptake This is likely to have been down to coordinated activities such as setting up vaccination hubs, circulation of translated materials in multiple languages, and online, face-to-face, and 'foot-patrol' visits to neighbourhoods.

For those local authorities that did not receive direct funding through the scheme, voluntary community sector (VCS) surge funding was provided to Strengthening Faith Institutions (SFI) and Near Neighbours (NN) in order to utilise their network into hard- to-reach communities.

The first COVID-19 disparities quarterly report also committed to a review of activity at a local authority level and to sharing the lessons learned from this. The review was undertaken ahead of, and summarised in, the second quarterly report. It focused on local authority areas identified under the Community Champions applications process, with larger proportions of at-risk communities and entrenched community transmission of COVID-19. The review found that those areas with strong existing links to community groups, and those with access to significant quantities of high-quality, relevant and up-to-date data, fared better in supporting those communities who had been disproportionately impacted by COVID-19.

Knowledge, resources and practical solutions have been shared by local authorities through a series of webinars and via the NHS Vaccine Equalities Connect and Exchange Hub.

Lessons learned

One of the early findings of this review is that interventions directly aimed at ethnic minority groups can be stigmatising by implying that they are more vulnerable to COVID-19 or that they are more likely to transmit the virus. Work to assess workplace risk last summer concluded that singling out ethnic minorities as an at-risk group could be stigmatising and harmful (in terms of workplace progression).

A more nuanced approach is to implement measures targeted at the population as a whole that disproportionately benefit ethnic minorities, without singling them out, such as guidance on preventing household transmission which was particularly important for families in Bangladeshi and Pakistani ethnic groups who are more likely to live in multigenerational

homes. This important insight also means future vaccination programmes (including COVID-19 boosters) will start from a better place.

This better place also relies on continuing to building trust within ethnic minority groups in health services more broadly, to overcome some of the barriers seen during the vaccination programme. Our response to COVID-19 has demonstrated that one important way to do this is by harnessing the relationships between government, national organisations and local, trusted voices in the community.

Principles of community engagement

Some of the lessons learned from the Community Champions on community engagement include:

- The decentralised structure of Community Champions enabled local schemes to be responsive to new challenges and for resources and funding allocations to be re-diverted as required
- Flexibility within the programme meant Community Champions were well positioned to respond, at pace, to unanticipated challenges such as concerns relating to the AstraZeneca vaccine
- This flexibility also resulted in more young adults, men and minority groups becoming Community Champions as the autonomy and trust given to Champions instilled more confidence that this was a model of shared decision-making.
- The decentralised structure meant that groups experienced a positive and enabling relationship with central government
- This relationship was one of support, resulting in greater trust in national policy and procedures between local and central government

Other initiatives that have worked well, in terms of increasing vaccine confidence and promoting uptake, include:

- Using community buildings, such as places of worship, pharmacies and community centres as vaccination sites, helped to build trust and overcome reluctance
- Providing a choice of community facilities, such as pharmacies, walk-in centres and pop-up venues, as well as mobile solutions (such as vaccination buses and 'vaxi taxis') can help to overcome barriers to vaccination
- Partnerships with local religious leaders and other trusted voices played a key role in helping to understand and overcome concerns about the COVID-19 vaccines
- Similarly partnerships with third sector organisations (such as Churches Together England, British Red Cross and the Caribbean and African Health Network) helped to encourage people to get vaccinated

Recommendations

- The government and health agencies must build on the success of the COVID-19 vaccination deployment programme in reaching ethnic minority groups and apply this to future vaccination programmes, including COVID-19 booster vaccinations, winter flu vaccination and childhood immunisation programmes.
- In order to reassure ethnic minority groups and encourage uptake, the government must ensure there is clarity in the communications about the need for COVID-19 boosters and the longer-term plan for COVID-19 vaccination.
- To reassure pregnant women that the COVID-19 vaccine is safe, the government should continue to deliver clear messaging through trusted voices and via social media.
- Government departments, their agencies and the NHS must continue to build trust in health services within ethnic minority groups through optimising and building on the local partnerships and networks established under the vaccination programme.
- The successful elements of the vaccination programme must also be applied to the work to tackle longer-standing health disparities. This must be a priority for the new Office for Health Improvement and Disparities and its partners.
- To build confidence in future vaccination schemes and other health interventions, the National Institute for Health Research and the NHS Race and Health Observatory should seek to increase ethnic minority participation in clinical trials and research through methods such as promoting the INCLUDE Ethnicity Framework.

2. Data and evidence of disparities

This chapter summarises the government's approach to understanding the drivers of COVID-19 disparities. It sets out the latest data and evidence including updates on vaccine confidence and uptake, differences between the first 3 waves of the pandemic and the impact of 'long COVID'. Annex D provides a more in-depth analysis of this data.

It also summarises the lessons learned from this activity and recommendations for future work.

Summary of the latest data and evidence (since May 2021)

This section summarises the government's analysis of the latest data on the impact of COVID-19 on ethnic minorities.

Differences between the first, second and third waves

This final report continues to explore the differences between the first wave of the pandemic (24 January 2020 to 11 September 2020) and the second wave (12 September 2020 to 31 March 2021) using ONS analysis of COVID-19 mortality. This analysis has developed since the last report, including updates to the following data sources:

- The latest ONS analysis incorporating COVID-19 deaths during February and March 2021^{8 9}
- PHE analysis of the deaths of individuals who had a laboratory-confirmed positive COVID-19 test between 31 July 2020 and 31 July 2021, which calculated mortality rates per 100,000 of the population for each broad ethnic group¹⁰

This updated analysis confirms that after adjusting for age, in the first wave of the pandemic, people from Black African, Black Caribbean, Bangladeshi and Pakistani ethnic backgrounds were at a greater risk of death from COVID-19 than the White British group.

Compared with the first wave, data from the second wave showed:

- a decrease in the excess risk of mortality for Black African and Caribbean groups (compared with the White British ethnic group)

8

<https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/articles/updatingethniccontrastsindeathsinvolvingthecoronaviruscovid19englandandwales/24january2020to31march2021>

9

<https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/adhocs/13485modelestimatesofdeathsinvolvingcovid19byethnicgroupandsexforthoseaged30to100yearsofageinthefirstandsecondwavesofthepandemicengland24january2020to31march2021>

¹⁰ <https://www.gov.uk/government/publications/covid-19-reported-sars-cov-2-deaths-in-england/covid-19-confirmed-deaths-in-england-to-31-july-2021-report#ethnicity>

- an increase in excess risk of mortality for Bangladeshi and Pakistani ethnic groups (compared with the White British ethnic group)^{11 12}

Previous reports have explained how new data sources and latest estimates have helped to understand the evolution of the pandemic. Recent data from the third wave suggests another change in trend. Data on infections from October 2021 shows that the white population currently has the highest case rate. During most of the pandemic to date, the white population has generally had lower case rates than most other ethnic groups.

Excess deaths

Updates to PHE's excess deaths analysis have enabled further comparisons over the waves of the pandemic. Excess deaths refer to number of deaths which have occurred in addition to the deaths expected for that time of year, as determined by mortality rates from earlier years¹³. This metric gives a broader sense of the impact of the pandemic, because it considers all deaths, not just those attributed directly to COVID-19.

Excess deaths were highest among the black ethnic group for the period between week ending 27 March 2020 to week ending 11 September 2020. In comparison, for the period between week ending 18 September 2020 to week ending 2 April 2021, excess deaths were highest in the Asian ethnic group. Excess deaths were lowest in the white ethnic group in both time periods.

COVID-19 risk factors

The government has continued to analyse ethnic minorities' risk of COVID-19 infection and mortality, aiming to understand the factors at play for groups who were at increased risk during the second wave of the pandemic.

The latest analysis shows that risk factors associated with a higher risk of COVID-19 infection include occupation, living in larger and/or multigenerational households with school-age children, and living in high population density areas with poor air quality and higher levels of deprivation.

These factors, or a combination of them, are likely to explain the disproportionate impact of COVID-19 on certain ethnic groups, such as Pakistani and Bangladeshi ethnic groups. Once infected with COVID-19, factors such as older age, male sex and having a disability or pre-existing health condition continue to be risk factors for mortality.

¹¹

<https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/articles/updatingethniccontrastsindeathsinvolvingthecoronaviruscovid19englandandwales/24january2020to31march2021>

¹²

<https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/adhocs/13485modelestimatesofdeathsinvolvingcovid19byethnicgroupandsexforthoseaged30to100yearsofageinthefirstandsecondwavesofthepandemicengland24january2020to31march2021>

¹³

<https://app.powerbi.com/view?r=eyJrIjoiYmUwNmFhMjYtNGZhYS00NDk2LWFiMTAtOTg0OGNhNmFiNGM0IiwidCI6ImVINGUxNDk5LVRhMzUtNGlyZS1hZDQ3LTVmM2NmOWRIODY2NiIsImMiOiJh9>

Long COVID

The National Institute for Health and Care Excellence (NICE) has identified 3 phases post COVID-19 infection, the latter two of which are commonly described as 'long COVID':

- **Acute COVID-19:** signs and symptoms of COVID-19 for up to 4 weeks
- **Ongoing symptomatic COVID-19** (signs and symptoms of COVID-19 for between 4 and 12 weeks)
- **Post COVID-19 syndrome:** signs and symptoms of COVID-19 that continue for more than 12 weeks and are not explained by an alternative diagnosis¹⁴.

The ONS publishes data on self-reported prevalence of long COVID. Between April and October 2021, the prevalence rate of long COVID was higher among white people compared with Asian people, in line with the findings of the government's third quarterly report¹⁵. This finding, of the likelihood of self-reported long COVID following confirmed infection being lowest among the Asian ethnic group, contrasts with rates of clinically diagnosed post-COVID-19 syndrome, which are highest in people of South Asian and black ethnic backgrounds. The evidence regarding the role of ethnicity in long COVID therefore remains mixed¹⁶.

Vaccinations

Vaccine uptake has increased over time among all ethnic groups. The largest increase in vaccine uptake in over-50s was among the Pakistani and Black African ethnic groups between April and October 2021. Vaccine uptake rates remain highest among the White British population and lowest among black ethnic groups¹⁷.

Vaccine confidence increased in every ethnic group from the period between December to January and June to July 2021¹⁸ ¹⁹. 96% of adults aged 16 and over in Great Britain reported a positive vaccine sentiment between 23 June and 18 July 2021, according to the latest

¹⁴ NICE. COVID-19 rapid guideline: managing the long-term effects of COVID-19. NICE, 2020. Available from: [Overview | COVID-19 rapid guideline: managing the long-term effects of COVID-19 | Guidance | NICE](#)

¹⁵

<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/datasets/alldatarelatingtoprevalenceofongoingsymptomsfollowingcoronaviruscovid19infectionintheuk>

¹⁶ <https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/bulletins/prevalenceofongoingsymptomsfollowingcoronaviruscovid19infectionintheuk/4june2021#prevalence-according-to-socio-demographic-characteristics>

¹⁷ <https://www.england.nhs.uk/statistics/statistical-work-areas/covid-19-vaccinations/>

¹⁸

<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandwellbeing/datasets/coronavirusandthesocialimpactsongreatbritainattitudestovaccines>

¹⁹

<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandwellbeing/bulletins/coronavirusandvaccinehesitancygreatbritain/9august2021>

survey data from ONS²⁰. Vaccine confidence ranged from 93% to 96% in the mixed, Asian, other and white ethnic groups, and was lowest among the black ethnic group at 79%²¹. Recent ONS analysis shows that among adults who were previously vaccine hesitant, a similar percentage of black (47%) and white (42%) adults had received at least one dose of the COVID-19 vaccine by September 2021²². 54% of Asian, 53% of other and 33% of mixed adults who were vaccine hesitant went on to receive at least one dose.

Research suggests that the risk of COVID-19 infection after a first dose of the vaccine is associated with age, deprivation and obesity (age is less associated with ethnic diversity than deprivation or obesity)²³.

Summary of approach since June 2020

The PHE review summarised what was known at the time about COVID-19 and ethnicity. It highlighted ethnic disparities in risks and outcomes, but did not explain *why* they had arisen. For this reason, since June 2020, the RDU has focused on understanding the key drivers of these disparities and the relationships between different risk factors.

This section summarises how the government's understanding of the risk factors changed, and how the data evolved because of the vaccination programme.

COVID-19 risk factors

In June 2020, the RDU identified a list of likely risk factors for COVID-19 infection, hospitalisation, and mortality. The RDU then determined potential gaps in data on risk factors. The RDU focused on obtaining missing data to improve the government's understanding of the disproportionate impact of COVID-19 on certain ethnic minority groups. Prior to the pandemic, overall mortality (adjusted for age) was lower in most ethnic minority groups compared with the white group. This mortality pattern was reversed during the pandemic for certain ethnic groups²⁴.

The first quarterly report in October 2020 concluded that a range of socioeconomic and geographical factors, coupled with pre-existing health conditions, contributed to higher infection and mortality rates for ethnic minority groups. Part of the excess risk, however, remained unexplained for some groups. Since then, the RDU has worked to get a better understanding of these drivers and to address, where possible, the gaps in our understanding.

²⁰

<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandwellbeing/bulletins/coronavirusandvaccinehesitancygreatbritain/9august2021>

²¹

<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandwellbeing/datasets/coronavirusandvaccinehesitancygreatbritain>

²²

<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandwellbeing/bulletins/coronavirusandchangingattitudetowardsvaccinationengland/7to16september2021>

²³ [https://www.thelancet.com/journals/laninf/article/PIIS1473-3099\(21\)00460-6/fulltext](https://www.thelancet.com/journals/laninf/article/PIIS1473-3099(21)00460-6/fulltext)

²⁴ <https://www.bmj.com/content/375/bmj-2021-068537>

Over the course of this project, a substantial body of epidemiological and statistical analysis has developed across academia and government. This research has sought to improve our understanding of COVID-19's impact and to identify new risk factors for different ethnic groups to inform government and health interventions. In addition, by controlling for different factors and characteristics in analytical models, for example pre-existing health conditions or deprivation, research has identified the effect that certain risk factors have on COVID-19 disparities, with many explaining some but not all of the differences between ethnic minority groups and white people.

RDU has worked with data providers and researchers such as OpenSafely, the SAGE working group on ethnicity, VirusWatch, Policy Lab, the King's Fund, UK-REACH, the REACT survey, ONS, and NHSEI. RDU also commissioned PHE to perform survival analysis. PHE studied the outcomes for people of different ethnicities diagnosed with COVID-19 to isolate the risk of becoming infected from the risk of dying. In October 2021, RDU won an ONS Research Excellence Award for their work on COVID-19 disparities²⁵ ²⁶.

Gaps in data about risk factors remain. Either the data does not exist, or is not available for individuals in sufficient detail to use in risk models. This includes, for example, transport use, the detail of some occupations and some aspects of social exclusion such as migratory status or other possibly vulnerable populations. It is likely that the residual risk of COVID-19 infection (unexplained risk) for some ethnic groups, and subsequent mortality, will be because of these factors. There is also some evidence to suggest that genetic differences may play a role for some ethnic groups. Annex E elaborates on the relationship between ethnicity and risk factors.

This table summarises how our understanding changed as the available data and analysis on the risk factors in the UK evolved.

²⁵

<https://www.ons.gov.uk/aboutus/whatwedo/statistics/requestingstatistics/onsresearchexcellenceaward>

²⁶ <https://www.gov.uk/government/news/race-disparity-unit-commended-for-pandemic-research>

Understanding of COVID-19 risk factors

	Understanding in June 2020	Understanding of first and second waves
Age and sex	Male sex and older age were known factors associated with COVID-19-related mortality and diagnosis.	Age is the most significant risk factor for severe illness and mortality from COVID-19 ²⁷ . Male sex is a risk factor for mortality ²⁸ . Research suggests that a difference in immune system response could be an important factor in explaining this ^{29 30} .
Geography and population density	Local authorities with the highest diagnoses and death rates were mostly urban. COVID-19 death rates in London were more than 3 times higher than in the region with the lowest rates (the South West).	Living in areas of high population density, and the local authority district where someone resides, explained a large part of the disparities in COVID-19 mortality ethnic minorities experienced ³¹ . Areas with high population density, such as major urban conurbations, had the highest COVID-19 death rates ³² .
Deprivation	COVID-19 survival rates were lower in the most deprived areas, particularly among those of working age where the risk of death was almost double than	Higher deprivation was a risk factor for COVID-19 infection and mortality ^{35 36} . The variance in mortality rate by deprivation was greater during 'peaks' of infections. Between 1 January and 31 December 2020, among those living in the most deprived areas, age-

27

<https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/datasets/weeklyprovisionalfiguresondeathsregisteredinenglandandwales>

28

<https://app.powerbi.com/view?r=eyJrIjoiYmUwNmFhMjYtNGZhYS00NDk2LWFIMTAOTg0OGNhNmFiNGM0liwidCI6ImVINGUxNDk5LTRhMzUtNGlyZS1hZDQ3LTVmM2NmOWRlODY2NiIsImMiOiJh9>

29 <https://www.nature.com/articles/s41586-020-2700-3>

30 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7498997/>

31

<https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/adhocs/13485modelestimatesofdeathsinvolvedbyethnicgroupandsexforthoseaged30to100yearsofageint hefirstandsecondwavesofthepandemicengland24january2020to31march2021>

32 <https://analytics.phe.gov.uk/apps/chime/>

35 <https://www.gov.uk/government/publications/react-2-study-of-coronavirus-antibodies-june-2020-results/react-2-real-time-assessment-of-community-transmission-prevalence-of-coronavirus-covid-19-antibodies-in-june-2020>

36 <https://www.nature.com/articles/s41586-020-2521-4>

	Understanding in June 2020	Understanding of first and second waves
	in the least deprived areas ^{33 34} .	adjusted mortality rates for the Pakistani, Bangladeshi, Indian, Black African, Black Caribbean and other ethnic groups were significantly higher than for the White British ethnic group ³⁷ .
Comorbidities (including obesity, diabetes, hypertension, and others)	Our understanding on the role of comorbidities was limited. Among deaths with COVID-19 mentioned on the death certificate, a higher percentage mentioned diabetes, hypertensive diseases, chronic kidney disease, chronic obstructive pulmonary disease and dementia than all cause death certificates did.	<p>Among people with pre-existing health conditions such as diabetes, hypertension, chronic kidney conditions, cardiovascular conditions and respiratory conditions the age-standardised mortality rates were higher for all ethnic minority groups compared with the overall death rate for all people with the same conditions^{38 39}. This analysis only controls for age so it is likely the mortality rates would be lower if also adjusted by other factors.</p> <p>In quarter 2 of 2020⁴⁰ (during the first wave of infection and deaths in the UK) COVID-19 age and sex standardised mortality ratios increased among people living with mental health disorders in London, when compared with London's population (3.8 for people with dementia, 3.3 for people with schizophrenia-spectrum disorders, 4.8 for eating disorders, 5.0 for pervasive developmental disorders, 9.2 for people with learning disabilities and 4.6 for personality disorders). By the last quarter of 2020⁴¹ mortality ratios were no longer elevated across most psychiatric diagnoses except</p>

³³https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/908434/Disparities_in_the_risk_and_outcomes_of_COVID_August_2020_update.pdf

³⁴ After adjusting for sex, age group, ethnicity and region

³⁷

<https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/adhocs/13360provisionalagestandardisedmortalityratesforallcausemortalitydeathsduetocovid19anddeathsduetoothecausesbyethnicgroupsexandindexofmultipledeprivationimdquintileengland1january2020to31december2020>

³⁸ Analysis of deaths between 21 March and 17 July 2020 – dementia was also included as a pre-existing health condition however there were no significant differences in COVID-19 mortality rates between ethnic minority people with dementia and all people with dementia

³⁹

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/942091/Summary_report_ethnicity_and_comorbidity.pdf

⁴⁰ 28 March to 26 June 2020

⁴¹ 26 September to 25 December 2020

	Understanding in June 2020	Understanding of first and second waves
		<p>for dementia, where an increased risk of COVID-19 mortality was still evident (1.5)⁴².</p> <p>Sickle cell disease and trait were observed to be associated with increased risks of severe COVID-19. Sickle cell disease was associated with a 4.1-fold increased risk of COVID-19 hospitalisation, and a 2.6-fold increased risk of dying due to COVID-19, adjusting for age, ethnicity and sex⁴³. Sickle cell disease is particularly common in people with an African or Caribbean family background^{44 45}.</p>
Lifestyle factors	Our understanding was too limited to draw firm conclusions.	<p>A government-funded research project, led by Professor Thomas Yates, found new insights about obesity and walking pace (a proxy measure of physical fitness) that suggest both factors are independently associated with the risk of severe COVID-19 infection and COVID-19 mortality⁴⁶.</p> <p>Former and current smokers had higher rates of hospitalisation and death than people who had never smoked^{47 48} with current smokers experiencing risk of mortality almost 5 times higher than people who had never smoked. There was no evidence to suggest that current smoking increased risk of infection compared with those who had never smoked⁴⁹.</p> <p>Due to a lack of available data, our understanding remains limited on the impact factors such as public transport use and international travel have on COVID-19 infections.</p>

⁴² <https://www.thelancet.com/action/showPdf?pii=S2666-7762%2821%2900214-3>

⁴³ <https://www.acpjournals.org/doi/10.7326/M21-1375>

⁴⁴ <https://www.nhs.uk/conditions/sickle-cell-disease/>

⁴⁵ <https://www.nice.org.uk/guidance/cg143/chapter/Introduction>

⁴⁶ <https://www.nature.com/articles/s41366-021-00771-z>

⁴⁷ <https://thorax.bmj.com/content/thoraxjnl/early/2021/09/12/thoraxjnl-2021-217080.full.pdf>

⁴⁸ Model adjusted for age, sex, ethnicity, deprivation, relevant pre-existing health conditions and body mass index.

⁴⁹ Using data for participants from UK Biobank that was collected between 2006 and 2010, who were still alive in January 2020 and lived in England. COVID-19 exposure and outcomes based on data up to 18 August 2020

	Understanding in June 2020	Understanding of first and second waves
Occupation	Our understanding was too limited to draw firm conclusions.	<p>Healthcare workers, indoor trade or transport and mobile machine workers had at least twice the total odds of seropositivity (presence of antibodies) compared with people employed in other professional occupations⁵⁰.</p> <p>In April 2021, analysis of UK BioBank data and PHE infections data from March to August 2020 found again that there were significant differences in the odds of getting severe COVID-19 for healthcare workers compared with people who weren't⁵¹.</p> <p>ONS analysed which occupations have the highest potential exposure to COVID-19 and found that those working within the security industry have a higher risk of infection.⁵² A significant proportion of these workers are from an ethnic minority background (for example, 11% of male security officers and related occupations are from a Bangladeshi or Pakistani ethnic background).</p>
Household size, including multi-generational households	Our understanding was too limited to draw firm conclusions	<p>ONS data shows that over-70s in the Bangladeshi and Pakistani ethnic groups are much more likely to have contact with other adults and school age children within the same household (56.4% and 34.7% respectively, compared with 1.5% of white adults)⁵³.</p> <p>There were larger increases in the R rate (reproduction rate) when schools were open and so over-70s in the Pakistani and Bangladeshi ethnic groups may be disproportionately impacted by this increased source of transmission.</p> <p>Analysis of OpenSAFELY data found that in the first wave, there was no association between living with children and COVID-19 outcomes in all people aged over 65, but in the second wave there was an</p>

⁵⁰ <https://www.medrxiv.org/content/10.1101/2021.05.13.21257161v1>

⁵¹ <https://bmcpublikealth.biomedcentral.com/articles/10.1186/s12889-021-10839-0>

⁵²

<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/causesofdeath/bulletins/coronaviruscovid19relateddeathsbyoccupationenglandandwales/deathsregisteredbetween9marchand25may2020>

⁵³

<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/articles/whyhaveblackandsouthasianpeoplebeenhithardestbycovid19/2020-12-14>

	Understanding in June 2020	Understanding of first and second waves
		<p>associated increased risk of infection, ICU admission and COVID-19 mortality for adults aged over 65 living with children⁵⁴, possibly related to schools being opened in the second wave (until end December 2020 and then again in March 2021).</p> <p>During the second wave of the pandemic, analysis of OpenSAFELY data also found living with younger generations to be associated with an increased risk of infection among people aged 67 years and over. OpenSAFELY data indicates that a larger proportion of South Asian people aged 67 years and older lived in households with 1 or more other generations than white people aged 67 years and older (69% compared with 31%)⁵⁵.</p> <p>Data from the ONS COVID-19 Infection Survey⁵⁶ shows that as household size increased, COVID-19 positivity increased. This association was stronger for ethnic minority people (excluding white minorities) than for white people.</p> <p>The data also shows that among ethnic minority people (excluding white minorities), living in a multigenerational household was associated with a higher likelihood of testing positive for COVID-19 compared with not living in a multigenerational household. However, this difference was not statistically significant.</p> <p>PHE analysis of cumulative COVID-19 case rates from March 2020 to October 2021⁵⁷ shows that as age increases from 0 to 24 years to 65 years and over, the risk of COVID-19 infection increases for most ethnic minority groups relative to the white ethnic group.</p> <p>Among people aged 0 to 24, those from the Pakistani and Bangladeshi ethnic groups were 0.9 and 0.8 times as likely to become infected with</p>

⁵⁴ <https://www.bmj.com/content/372/bmj.n628>

⁵⁵ <https://www.bmj.com/content/372/bmj.n628>

⁵⁶ <https://www.medrxiv.org/content/10.1101/2021.09.02.21263017v1>

⁵⁷ <https://analytics.phe.gov.uk/apps/chime/>

	Understanding in June 2020	Understanding of first and second waves
		COVID-19 as white people. Among people aged 65 and over, those from the Pakistani and Bangladeshi ethnic groups were 3.1 and 2.5 times as likely to become infected as white people.
Vitamin D	We did not know whether lower Vitamin D levels might explain higher COVID-19 infection rates.	Studies did not find any relationship between vitamin D and COVID-19, suggesting that a lack of vitamin D among ethnic minorities did not explain the disparities in infection and mortality rates.
Air pollution	Our understanding of the impact of air pollution was limited.	Between March and July 2020, COVID-19 mortality rates were 1.7 times higher in neighbourhoods with worse overall air quality than areas with better air quality, after accounting for socio-demographic factors. Poor air quality was also strongly associated with the ethnic diversity of an area – this analysis shows that on average, neighbourhoods with less diverse ethnic minority populations had worse air quality ⁵⁸ .
Care home residents	Our understanding of ethnic disparities in care home deaths was limited.	Early analysis of deaths concentrated on private households. Subsequently, data on deaths in care homes became available. Analysis of data including care home residents shows that, after adjusting for residence type, the risk of dying from COVID-19 for all ethnic minority groups increased or remained similar (compared with the risk when not controlling for residence type). This is contrary to what we expect to see when adding in a control to a risk model. Because the population of care homes is predominantly White British, when we control for the risk associated with living in a care home, the estimated risk of dying for most ethnic minority groups is higher than when not controlling for it ⁵⁹ .

⁵⁸ <https://www.mdpi.com/2571-8800/4/2/11/htm>
⁵⁹

<https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/articles/updatingethniccontrastsindeathsinvolvingthecoronaviruscovid19englandandwales/24january2020to31march2021>

	Understanding in June 2020	Understanding of first and second waves
Behavioural factors	Our understanding of the role of behavioural factors (such as “following the COVID-19 rules”) was limited	<p>Analysis of the Opinions and Lifestyle survey (OPN) shows that between 21 July and 15 August 2021, higher proportions of white people socialised indoors and outdoors with people who were not in their household than black or Asian people^{60 61}. However, this analysis refers to a short period of time and sample sizes do not allow for analysis of detailed ethnic groups.</p> <p>Our understanding remains limited on the uptake of behavioural factors such as “following the COVID-19 rules by ethnicity” and whether any of the barriers or reasons for not following rules differ by ethnicity, RDU has recommended that ONS improve the ethnicity representation in their surveys.</p>
Disability⁶²	Our understanding of COVID-19 and disability was limited	<p>Disabled people in England have had an increased risk of mortality involving COVID-19 compared with non-disabled people.^{63 64}</p> <p>There are some explanations available for this: disabled people are on average older, more likely to become infected as a result of contact in care homes or with carers^{65 66}, experience other known risk factors such as diabetes⁶⁷, live in socio-economically disadvantaged conditions or areas⁶⁸ and experience barriers in accessing care^{69 70}</p> <p>Including other risks such as pre-existing health conditions in the analysis did reduce the excess mortality rates for disabled people, but some risk</p>

⁶⁰

<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandwellbeing/adhoc/13648socialisingindoorsandoutdoorsbyfivecategoryethnicitybreakdownmarchtoaugust2021>

⁶¹ Analysis is presented only for the most recent time period as changes in socialising over time broadly reflect changes to guidelines – see source data for previous time periods starting March 2021

⁶² The impact of COVID-19 on disabled people continues to be monitored across government as part of a separate strand of work to ensure the needs of disabled people are considered in the government’s response to, and recovery from COVID-19.

⁶³ Based on self-reported disability status collected in the 2011 Census

⁶⁴ <https://www.medrxiv.org/content/10.1101/2021.06.10.21258693v1>

⁶⁵ https://ltccovid.org/wp-content/uploads/2021/02/LTC_COVID_19_international_report_January-1-February-1-2.pdf

⁶⁶ Between 20 March 2020 and 15 January 2021, care home residents accounted for 33% of all COVID-19 deaths in England

⁶⁷ <https://www.medrxiv.org/content/10.1101/2021.06.10.21258693v1>

⁶⁸ <https://pubmed.ncbi.nlm.nih.gov/30753498/>

⁶⁹ <https://pubmed.ncbi.nlm.nih.gov/32816541/>

⁷⁰ Based on research from the United States

	Understanding in June 2020	Understanding of first and second waves
		<p>remains unexplained.</p> <p>Between 21 March and 5 June 2021, data suggests that the proportions of COVID-19 deaths among people with learning disabilities for Asian (6.5%) and black (3.3%) people with learning disabilities were around 3 times higher than the proportions of average deaths in 2018 and 2019 (2.1% and 1.3% respectively)^{71 72}.</p>

Previous quarterly reports stated that ethnicity is not considered a risk factor in and of itself. We have explored this further and considered whether ethnicity should be viewed as a risk factor in Annex E.

Vaccination

The UK's COVID-19 vaccination rollout programme began in December 2020, with older adults, care home residents and frontline health and social care workers prioritised for vaccination. From June 2021, all adults aged 18 and over were eligible for a COVID-19 vaccination in England. This was extended to those aged 16 and over in August.

Early data from the UK Household Longitudinal study, the Office for National Statistics (ONS), and REACT-2 showed lower levels of vaccine uptake among some ethnic minority groups following the launch of the COVID-19 vaccination programme. Similarly, previous national vaccination programmes have seen lower uptake in Black African and Black Caribbean groups. The government put in place a programme of work to understand and address this.

RDU's subsequent reports provided the latest picture of vaccine sentiment, including, reasons for hesitancy and vaccine uptake statistics. For example, RDU showed the high proportions of people who had been hesitant but later accepted a vaccine.

Vaccine confidence has increased in every ethnic group from the period between December to January and June to July 2021^{73 74}. Although the data shows black ethnic groups

⁷¹ <https://www.gov.uk/government/publications/covid-19-deaths-of-people-with-learning-disabilities>

⁷² Using unadjusted numbers for adults only from the Learning Disabilities Mortality Review (LeDeR). COVID-19 deaths include both suspected and confirmed deaths from COVID-19. There is no mandatory requirement to report the deaths of people with learning disabilities to the review, therefore the total number of deaths is significantly lower than other datasets.

⁷³

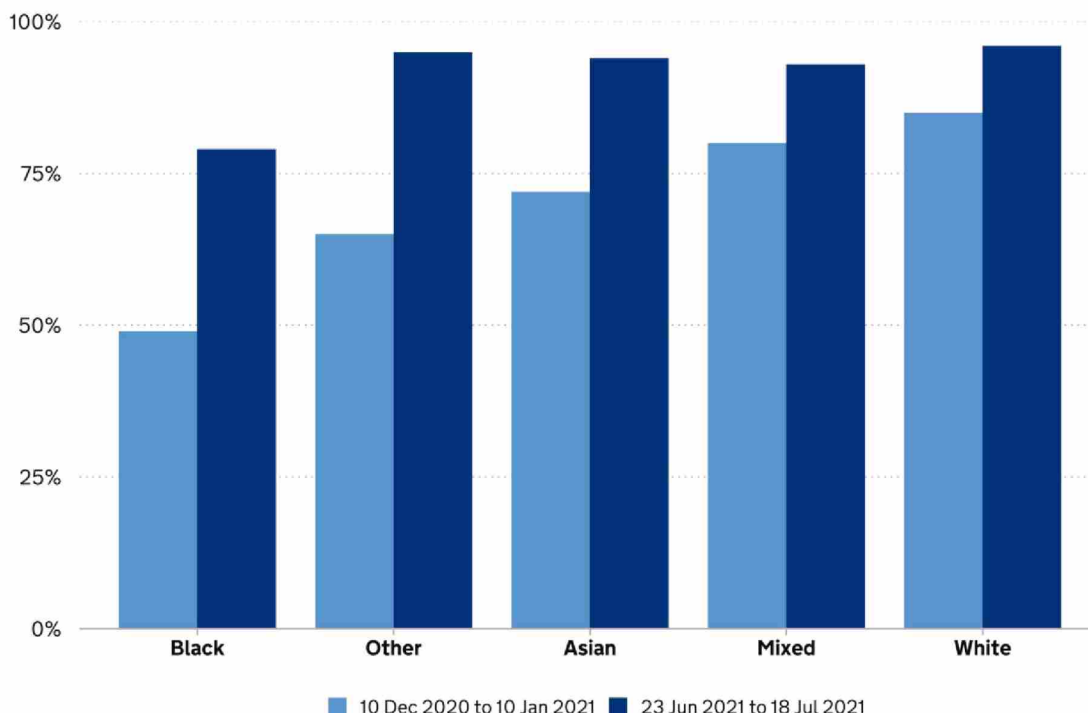
<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandwellbeing/datasets/coronavirusandthesocialimpactsongreatbritainattitudetovaccines>

⁷⁴

<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandwellbeing/bulletins/coronavirusandvaccinehesitancygreatbritain/9august2021>

consistently have greater vaccine hesitancy than other broad ethnic groups, the gap in confidence between black people and people from other broad ethnic groups has narrowed since December.

Figure 1: Percentage of people who said they were likely to accept or had already accepted the COVID-19 vaccine, by ethnicity and research period



Source: Office for National Statistics

Recent ONS analysis shows that among adults who were previously vaccine hesitant, a similar percentage of black (47%) and white (42%) adults had received at least one dose of the COVID-19 vaccine by September 2021⁷⁵. 54% of Asian, 53% of other and 33% of mixed adults who were vaccine hesitant went on to receive at least one dose.

In the second quarterly report, OpenSAFELY analysis showed lower vaccine rates for some ethnic minority groups. Among the over 80s population, 82.8% of White British people had received at least one dose of a vaccine by 4 February 2021, compared with uptake rates of between 45.1% and 55.2% in Black African, Mixed White and Black African, Black Other, Bangladeshi and Pakistani ethnic groups.

Similarly, the third quarterly report showed that among over 80s, ethnic minority groups had lower rates of vaccine uptake as at 14 April 2021. However, between 4 February and 14 April, uptake rates among over 80s in all ethnic groups increased. Early evidence of vaccine

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<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandwellbeing/bulletins/coronavirusandchangingattitudestowardsvaccinationengland/7to16september2021>

uptake among over 50s from NHS England was broadly consistent with the analysis of over 80s. At 7 April 2021, vaccine uptake rates ranged from 61.6% in Black Caribbean over-50s to 93.8% in White British over-50s⁷⁶.

Since the third quarterly report, NHS England has continued to publish monthly vaccine uptake data. Between 7 April and 30 October 2021, the percentage of over-50s who had received at least one COVID-19 vaccine increased in all ethnic groups. The largest percentage point increases were in the Pakistani ethnic group (from 73.1% to 83.7%, up by 10.6 percentage points) and Black African ethnic group (from 64.9% to 75.1%, up by 10.2 percentage points)⁷⁷.

Similarly, between 31 May and 31 October 2021, the percentage of over-50s who had received both doses of the COVID-19 vaccine increased in all ethnic groups. The largest percentage point increases were in the Pakistani ethnic group (from 54.2% to 78.8%, up by 24.6 percentage points) and Bangladeshi ethnic group (from 63.7% to 87.0%, up by 23.3 percentage points).

Lessons learned

The lessons learned over the course of this project include:

- The importance of understanding rapidly evolving data – and not jumping to conclusions about causes and effects – in order to inform policy decisions. For example, understanding the data available on vaccine sentiment and vaccine uptake has enabled vaccine messaging and measures to be tailored in order to mitigate the impact of the second wave of the pandemic on people in the Pakistani and Bangladeshi ethnic groups
- The importance of data linkage, and to develop quick processes to allow others to access linked data away from the secure office facilities
- The need to develop a culture across the NHS of sharing information with government departments, and being more open to suggestions about publishing data that would help people to understand the spread of the virus and the roll out of the vaccine programme
- Different ethnic groups have experienced different outcomes during the pandemic. These findings strengthen the argument that ethnic minorities should not be considered a single group that faces similar risk factors in relation to COVID-19

⁷⁶ <https://www.england.nhs.uk/statistics/statistical-work-areas/covid-19-vaccinations/>

⁷⁷ <https://www.england.nhs.uk/statistics/statistical-work-areas/covid-19-vaccinations/>

Recommendations

- The government should continue to monitor the impacts of COVID-19 by ethnicity as the virus evolves. This may include:
 - measuring survival analysis over time
 - monitoring vaccine uptake among 16 to 18 year olds and 12 to 15 year olds and uptake of the booster vaccine
- The findings and recommendations from this series of reports should be applied to the government's response to future COVID-19 variants.

3. Data quality

This chapter explains the government's approach to understanding the most important factors that impact on ethnicity health data quality. Focussing primarily on how the ethnicity of patients is requested by health professionals and recorded in their health records, it outlines next steps to improve ethnicity data in different data collections and analyses. It also summarises progress on projects such as recording ethnicity as part of death certification and making ethnicity categories more consistent ("harmonisation") across different datasets.

Approach since June 2020

RDU has assessed the quality of ethnicity coding in health datasets, and the quality of analysis used to measure the impact of COVID-19 on different ethnic groups. These datasets have included NHS datasets, Hospital Episode Statistics, and survey data such as the ONS COVID-19 Infection Survey (CIS) and Opinions and Lifestyle Survey (OPN). The reports have given recommendations to improve the quality of health ethnicity data collection, analysis and reporting.

The recommendations are leading to higher quality, more consistent ethnicity health data, closing gaps in our evidence base, supporting users to find, understand and interpret data better and ultimately better informed policy interventions. Longer-term, this will help the government boost wider health outcomes, not just those from COVID-19.

Some of these recommendations have work already in progress:

Collecting ethnicity as part of death certification process

Work is progressing to make ethnicity a mandatory question for healthcare professionals to ask patients. That ethnicity data will then be transferred to a new, digitised Medical Certificate Cause of Death which can then be used in ONS' mortality statistics. This was a recommendation from the first quarterly report now led by DHSC. As part of this process, it is important to confirm that the ethnicity of the person who has died will come from patient records.

Harmonising datasets across government and the agencies

Following a recommendation from the second quarterly report,⁷⁸ work is underway to ensure departments and agencies commit to using the Government Statistical Service (GSS) harmonised ethnicity standard⁷⁹ in their data collections, and publish their commitment to doing so, including timescales. Harmonised standards set out how to collect and report statistics to ensure comparability across different data collections.

The RDU is currently working with departmental representatives from the Harmonisation Champions Network to further progress this, pending a new harmonised ethnicity standard being produced by the GSS, led by ONS.

⁷⁸ <https://www.gov.uk/government/publications/second-quarterly-report-on-progress-to-address-covid-19-health-inequalities/second-quarterly-report-on-progress-to-address-covid-19-health-inequalities>

⁷⁹ <https://gss.civilservice.gov.uk/policy-store/ethnicity-harmonised-standard/>

Reporting on data analysis methods and data quality

In their report⁸⁰ on ethnicity data in health records The Nuffield Trust recommended that methods to address data quality issues in the analysis of ethnic differences must be clearly reported. Describing aspects of these methods such as their strengths and limitations (and publishing them in the interests of transparency) will help users understand and interpret the data correctly and ensure that appropriate conclusions are drawn from it.

More generally, all analyses of healthcare activity should routinely include ethnicity, and should include an assessment of the overall quality. This is a responsibility for all departments and agencies reporting on health data.

RDU believes these are crucial steps to improve data quality. Progress in this area has been made in the analysis and descriptive information for the linked Census and Hospital records produced by ONS, for example, and Public Health England's new method of determining ethnicity using Hospital Episode Statistics (HES)⁸¹.

Increasing representation of ethnic minority groups in surveys

Progress has been made in increasing the number of people in surveys (the "survey sample size") used to measure COVID-19 outcomes, for example in the Coronavirus Infection Survey (CIS) that was described in the second report⁸². Further increases in sample sizes will help produce more robust statistics for detailed ethnic groups, and help to move away from (binary) white and other than white breakdowns, such as those presented in the recent CIS reinfection statistics⁸³.

The proportion of people from ethnic minority groups is often lower in surveys than in the general population. This means that people using the data might have less confidence that the results reflect the overall population for those groups. Also, if the survey sample size is not large enough, it can be more difficult to decide whether observed differences between ethnic groups or time periods are reliable and reflect real differences in the whole population ("statistically significant differences"), or whether they are due to natural variations in the data that has been collected.

The first quarterly report described a project by ONS to improve how it engages with under-represented groups. As part of this project, ONS is also going to consider its approach to how surveys are designed to investigate whether they could be more representative of minority groups.

As well as increasing ethnic minority representation in (statistical) surveys, greater ethnic minority participation in clinical trials will help ensure that new treatments and vaccines being

⁸⁰ <https://www.nuffieldtrust.org.uk/research/ethnicity-coding-in-english-health-service-datasets>

⁸¹ <https://www.gov.uk/government/publications/third-quarterly-report-on-progress-to-address-covid-19-health-inequalities/appendix-b-quarterly-progress-report-on-improvements-to-health-datasets>

⁸² <https://www.gov.uk/government/publications/second-quarterly-report-on-progress-to-address-covid-19-health-inequalities/second-quarterly-report-on-progress-to-address-covid-19-health-inequalities>

⁸³ <https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/bulletins/coronaviruscovid19infectionsurveycharacteristicsofpeopletestingpositiveforcovid19uk/1december2021#reinfections-with-covid-19-uk>

trialled are effective and safe for everybody. This is recommended in Chapter 1 and discussed later in this section.

Increasing and improving the use of long COVID codes

There is significant work happening between NHS-X and GP suppliers to improve the capture of data about long COVID. The GP Enhanced Service for long COVID has supported training and education, and activity around reducing inequalities⁸⁴. It has also supported GPs in recording long COVID codes in databases when the condition is diagnosed.

Developing the ONS database for health and care statistics in England

There are many data sources that are being used to analyse the impact of COVID-19, rates of vaccination uptake and vaccine sentiment, and long COVID. In order to bring these datasets together for the benefit of users, the ONS has been developing a website tool⁸⁵ that compiles official statistics relating to health and care in England into one location.

This is good progress in helping users better understand the range of health datasets available. The tool has enormous potential to lead to higher quality research and analysis.

Latest work on data quality improvements

The third quarterly report recommended that RDU engage with the Office for Statistics Regulation (OSR) and others about priorities for improving the quality of ethnicity data on health records.

In August 2021, RDU and OSR held a joint roundtable discussion with owners, providers and users of English healthcare data. The outcome of this discussion is summarised in this chapter, with further detail included in Annex F. We set out in this section the next steps that should be taken forward as priorities. Collaboration between several departments, agencies and arms-length bodies will be required to progress many of the priorities. To do this, the main organisations associated with improvements to health ethnicity data should create a Programme Board to take these next steps forward.

There will be significant benefits to implementing this data quality improvement programme. The government, public sector bodies, and academic and research organisations will have a better understanding of the health impacts of COVID-19 and other aspects of the pandemic for different ethnic groups. The programme will mean different data collections use consistent ways of requesting and recording ethnicity from patients. The work has the potential to increase the amount of analysis and research available, fill gaps in the evidence base and increase trust in the data. People interested in health data will be able to access it more easily, understand it better, and draw more appropriate conclusions from it.

Also, many of the data improvements will also have wider benefits for understanding other health outcomes in the future.

⁸⁴ <https://www.england.nhs.uk/wp-content/uploads/2021/06/C1302-Update-to-GP-contract-arrangements-for-2021-22-.pdf>

⁸⁵ <https://gss.civilservice.gov.uk/dashboard/tools/health-and-care-statistics/database.html>

The data quality improvements that were discussed at the roundtable are listed here, with the lead departments shown.

Higher priority improvements

- Improving ethnicity coding (DHSC to outline responsibility to relevant leads). This should consider recommendations designed to improve the coding of ethnicity in health datasets, which could include:
 - developing an ethnicity information standard for the NHS
 - new guidance that specifies how ethnicity data should be collected and recorded, and the ethnicity classifications used
 - ensuring coherence of the standard with any new Government Statistical Service harmonised ethnicity standard
 - an ongoing review of implementation
 - data linkage to (for example) GP records, hospital records, or NHS Digital's central records
- Reviewing data access and sharing, and dissemination of microdata for research, and aggregated statistical data, led by relevant health departments

Lower priority improvements

- Reporting unknown ethnicity led by health statistics departments – the Data Quality Maturity Index should include the proportion of records coded as not known, not stated, an 'other' group and 'any other ethnic group'. There should also be wider reporting of levels of unknown ethnicity in all analyses
- Increasing representation of ethnic minority groups in trials, led by the National Institute for Health Research and the NHS Race and Health Observatory
- Continuing to hold statistics producers to account to ensure the quality of ethnicity data and statistics meet users' needs, led by the Office for Statistics Regulation
- Investigating feasibility for better guidance and signposting of health statistics, led by RDU, ONS and other health departments

Improvements in progress

- Collecting ethnicity as part of the death certification process, led by DHSC
- Statements on harmonisation of (health and non-health) datasets to any new Government Statistical Service ethnicity harmonised standards, led by RDU and ONS
- Increasing and improving descriptions of analysis methods used to address data quality issues, led by health statistics departments

- Increasing and improving reporting on the quality of coding of ethnicity, led by health statistics departments
- Increasing sample sizes and representation of ethnic minority groups in surveys, led by health statistics departments and ONS
- Improving use of COVID-19 codes during clinical diagnosis of the long COVID condition, led by NHSX, supported by GP Enhanced Service
- Continuing to develop the database for health and care statistics in England, led by ONS

Improving ethnicity coding in health datasets

It was agreed between departments and agencies at the roundtable that improving the recording and coding of the ethnicity of patients in health records is the highest priority data quality action. Currently, issues with ethnicity coding disproportionately affect ethnic minority patients' records.

Analyses to further understand COVID-19 and other health disparities between ethnic groups will significantly improve if the coding of ethnicity for patients improves. This will also help identify ethnicity on death certificates, and an emphasis on improving coding was noted in RDU's previous reports and the Nuffield Trust report⁸⁶ on ethnicity data in health records.

DHSC is thus considering a number of interdependent recommendations proposed by NHS England to improve coding of ethnicity on receipt of which responsibility will be outlined to relevant leads by DHSC in due course.

This long-term data quality programme is a significant, new next step in improving ethnicity data in health datasets. The programme would include developing an ethnicity 'information standard' for the NHS and a plan for implementing the new standard. An information standard is a document explaining the types of data collected, how they should be collected and processed, the technical (IT) standards that should be used to collect and store the data, and how the data will be managed.

The programme of work will also include:

- New, up-to-date guidance on ethnicity coding for health service providers and GPs covering all NHS-funded care and covering how patients are asked for their ethnicity and how it is recorded in their health records
- Which categories are used when people are asked for their ethnicity. These might be derived from recommendations in the Unified Information Standard for Protected Characteristics (UISPC) project, described in the first quarterly report

Subsequently, and to ensure that the information standard is implemented correctly and consistently, and on a continuous basis:

- Integrated care system leaders should ensure that the updated guidance on ethnicity coding is used

⁸⁶ <https://www.nuffieldtrust.org.uk/research/ethnicity-coding-in-english-health-service-datasets>

- Boards and leaders of NHS providers and commissioners, and GP practices, should take ownership of the quality of ethnicity coding for their patients, ensure that the updated guidance is used and routinely monitor coding quality

The RDU has previously noted the importance of harmonisation of ethnicity classifications to increase consistency with other health and non-health datasets. ONS is also in the process of planning what work must go into developing a new harmonised standard for ethnicity, which will involve discussions across the GSS and with other users. There must be dialogue between DHSC, NHS England and the ONS Harmonisation team to ensure that any new NHS and GSS classifications can be reconciled.

Data linkage is also a powerful tool when used to better understand the quality of ethnicity recording in different datasets and to improve the robustness of data. For example, NHSEI recently stopped the collection of ethnicity data when people receive their coronavirus vaccine. This is now derived by linking to, and using ethnicity from, GP records.

The quarterly reports have noted issues with ethnicity coding in GP records, for example, the inconsistent use of codes and a lack of harmonisation, so there is merit in NHS England considering additional data sources to supplement GP records when ethnicity data is missing in the latter.

The ONS has also demonstrated that it is possible to use an anonymised process to link hospital and GP records to the 2011 Census ethnicity data for England in the ONS's internal secure analysis environment.

A similar approach could be taken using the 2021 Census records when they become available. As a next step, ONS should collaborate with the other relevant health departments and consider how linking health and Census data could be improved and extended to facilitate more reliable, timely and detailed estimates of ethnic health disparities on a regular basis. Any work of this kind should respect the legal and ethical constraints around Census and patient data, while seeking every opportunity to achieve the overarching objective of improved data quality.

Reviewing data dissemination

The RDU recommends 2 new next steps on data dissemination for this report:

First, that relevant departments should review and action existing requests for health data from RDU and others for the purposes of analyses of the pandemic.

As part of this next step, some data should be published that would add significant value to the evidence base. These include, for example:

- information on the number of COVID-19 deaths of healthcare workers, by ethnicity
- the number of hospital-acquired COVID-19 infections and deaths
- uptake and use of the NHS COVID-19 app by different ethnic groups from the PIRU Tracker Survey

Second, the RDU recommends an independent strategic review of the dissemination of healthcare data and the publication of statistics and analysis. This review should consider 2 aspects in particular:

- Changes to processes that might facilitate and streamline data sharing and access in the future, while respecting legal and ethical constraints of the data
- That all useful and relevant microdata and aggregate statistics pertaining to the pandemic should be released in the future

The review must consider the importance of leadership in developing a culture in which data are shared and statistics published unless there are compelling reasons not to do so. The basis of the review should be underpinned by a complete commitment to transparency in all instances unless patient confidentiality is threatened.

There are significant benefits to the implementation of these 2 recommendations around data access and sharing including:

- more and better quality research being possible in the future and
- increased transparency and trustworthiness in outputs

RDU recommends that relevant departments act on these 2 next steps.

Reporting unknown ethnicity

The proportion of records that have a valid ethnic group code⁸⁷ can vary between different areas and providers. This is shown in management information for Clinical Commissioning Groups (CCGs) published by NHS Digital⁸⁸. The coverage of ethnicity data for providers is also part of the NHS Data Quality Maturity Index⁸⁹ (DQMI), a monthly publication about data quality in the NHS.

The Nuffield Trust report recommended that the DQMI should include the proportion of records coded as not known, not stated, an 'other' group and 'any other ethnic group'. RDU believes this is a good approach to better understand the data quality of NHS datasets and for monitoring how data quality changes over time. This work should be progressed by NHS Digital.

More generally, RDU supports including information about levels of unknown ethnicity in all other datasets and analyses (for example, of vaccine uptake) and an assessment of how this might affect the interpretation for different ethnic groups. This allows users to gain a better understanding of data quality across different datasets and aids interpretation of data and analysis, including over time.

Increasing representation of ethnic minority groups in clinical trials

Research by the National Institute for Health Research (NIHR)⁹⁰ shows that ethnic minority groups are under-represented in clinical trials. The reasons for this are not clear, but a University of London research paper noted that the underrepresentation of ethnic minority groups in COVID-19 trials might be due "to a combination of personal and structural factors". Social factors may include social deprivation limiting access to health services, and in turn,

⁸⁷ And are not unknown, or missing, for example.

⁸⁸ <https://digital.nhs.uk/data-and-information/publications/statistical/mi-ethnic-category-coverage/current>

⁸⁹ <https://digital.nhs.uk/data-and-information/data-tools-and-services/data-services/data-quality>

⁹⁰ <https://www.nihr.ac.uk/news/nihr-research-ethnicity-data-provides-insight-on-participation-in-covid-19-studies/26460>

participation in health research. Participant-related factors may include language and cultural barriers, and mistrust towards researchers and research institutions.⁹¹

It is essential that samples are (at least) representative of ethnic minority populations, so that new treatments and vaccines being trialled are effective and safe for everybody. There is also a strong argument for targeted over-representativeness to ensure significant differences between groups can be identified.

As recommended in Chapter 1, the National Institute for Health Research and the NHS Race and Health Observatory should seek to increase ethnic minority participation in clinical trials and research through methods such as the INCLUDE Ethnicity Framework.

Quality of health ethnicity data and statistics

The Office for Statistics Regulation will continue to hold statistics producers to account to ensure the quality of ethnicity data and statistics meet users' needs. They encourage DHSC to keep users informed on the progress with the priority next steps.

Developing better guidance for health statistics

There might be benefits in improving guidance and signposting of health statistics to help a layperson navigate their way through the health data landscape (with a wider focus than health data about ethnicity). As a new next step, RDU will discuss options for this with the English Health Statistics Steering Group.

Lessons learned

The key findings from this strand of work are:

- In different datasets there are issues with ethnicity coding, different levels of representation of ethnic minorities, differences in the ethnicity classifications used and relatively high levels of missing ethnicity. These factors (and others) can have a significant impact on the overall quality of the data and analyses based on that data. The impact will vary depending on the analysis that is being undertaken
- The recording of ethnicity data, the use of consistent ethnicity categories across datasets, and linking datasets to improve data quality or to facilitate further analysis are both crucial to improving ethnicity data quality to understand the impact of the virus on different ethnic groups
- Some datasets have supported more complex analyses by allowing analysts to control for other factors such as age, deprivation, economic status, housing tenure and pre-existing health conditions
- The application of these analytical techniques on existing data, along with data linking by ONS and others has improved data quality and enabled innovative new analysis. For example, ONS has linked Census data on the ethnicity of individuals to NHS health records and death registrations to produce estimates of deaths from COVID-19 for different ethnic groups

⁹¹ <https://www.sciencedirect.com/science/article/pii/S2589537021001838#bib0004>

Recommendations

- DHSC should continue to consider the set of interdependent UISPC recommendations proposed by NHS England to improve the quality of ethnicity data coding, and should outline responsibilities to relevant leads.
- ONS should collaborate with the other relevant health departments and consider how linking health and Census data could be improved and extended to facilitate more reliable, timely and detailed estimates of ethnic health disparities on a regular basis.
- Relevant health departments and agencies should review and action existing requests for health data, and undertake an independent strategic review of the dissemination of healthcare data and the publication of statistics and analysis.
- NHS Digital should include the proportion of records coded as not known, not stated, an 'other' group and 'any other ethnic group' in the NHS Data Quality Maturity Index.
- RDU will discuss ways to improve guidance and signposting for health statistics with the English Health Statistics Steering Group.
- A Programme Board, involving representatives of the user community and other relevant stakeholders (including the devolved administrations), should oversee implementation of these priorities and should publish regular reports of progress.

4. Stakeholder engagement and insights

This chapter summarises engagement activity since the last report. It focuses on the vaccination roll out, the government's overall approach since the start of this review, and wider work to address maternal health disparities.

Insights gained from RDU-commissioned research into ethnic minorities' personal experiences of the pandemic are summarised here. This includes the recent *Perceptions of the Pandemic* project, which gathered views across a wide range of government interventions.

Latest engagement since May 2021

The main focus of the Minister for Equalities' engagement work since the start of the year has been on promoting vaccine uptake among ethnic minorities. Most recently, she has:

- Hosted a roundtable with High Commissioners from countries with large diaspora networks in the UK, in order to promote vaccine uptake among those groups with lower rates of vaccination
- Held meetings with the NHS Director of Health Inequalities, the Chair of the British Medical Association and the newly-appointed interim deputy Chief Medical Officer for England
- Given the keynote speech at an event to discuss progress implementing the recommendations from the *Turning the Tide* report⁹², which assessed the disproportionate impact COVID-19 was having on ethnic minority staff and patients in NHS maternity services

The former Minister for COVID-19 Vaccine Deployment also continued a programme of visits and engagement to promote vaccine uptake including:

- A London Vaccines Summit with The Greater London Authority (GLA), Mayoral Office and NHS London focused on the challenges of the vaccine roll out, planned activity and innovative approaches from across the capital to improve confidence and uptake
- A roundtable event with NHS Youth Forum to discuss how to encourage vaccine uptake amongst younger cohorts (attendees from different ethnic minority, disability and LGBT groups)
- Speaking at the Bangladeshi Caterers event to thank catering restaurants for their support to drive vaccine uptake in the Bangladeshi ethnic group

The former Minister for Faith and Communities had a number of engagements including:

- Meeting the National Zakat Foundation to discuss the role of faith groups during the pandemic

⁹²

<https://www.eastlondonhcp.nhs.uk/downloads/ourplans/Maternity/Turning%20the%20Tide%20Maternity%20Report%20-%202020.pdf>

- A meeting of the Places of Worship Taskforce to consider the updated government COVID-19 guidance and how to ensure places of worship remained safe
- A roundtable with leaders from the Christian, Jewish, Muslim, Hindu and Sikh faiths on the government's guidance for places of worship, and what faith communities can do to encourage vaccine take up and compliance with test and trace

Summary of approach to engagement since June 2020

Government ministers have led a programme of engagement since the PHE review concluded in June 2020. In the early stages, the Minister for Equalities shared the emerging findings from the data on COVID-19 health disparities across government, and encouraged departments to develop interventions to address these. The Minister also wrote to all stakeholders who contributed to PHE's 'Beyond the data' report⁹³, to see which of them wished to be involved in future engagement activity.

Early engagement also focused on improving public health communications. Initiatives included the Minister for Equalities prompting an ethnic minority engagement communications plan in time for the Eid Al Adha holiday at the end of July 2020 and the then Ministry for Housing, Communities and Local Government (MHCLG) appointing a 'Places of Worship Taskforce' of senior faith leaders to advise on guidance to re-open places of worship safely.

Engagement activity since the autumn has focused on promoting vaccine uptake among ethnic minorities. The Minister for Equalities worked alongside the then ministerial colleagues to tackle misinformation and encourage uptake through a targeted series of roundtable discussions, webinars, conference speeches, and high-profile visits by senior Cabinet Ministers and meetings with specialist bodies, such as the National Pharmacy Association. Ministers and clinicians have met over 250 multicultural organisations and faith leaders to brief them about vaccine efficacy and safety, covering Muslim, Jewish, Hindu and Sikhs, Evangelical and black-majority churches and Somali, Bangladeshi and Nigerian organisations.

The insights from this engagement have been fed into the vaccination roll out programme.

Developing qualitative insights

Ethnic minority experiences of the pandemic

As summarised in the second quarterly report, RDU commissioned the Policy Lab to undertake a deep dive into the experiences of 12 people from different ethnic minority backgrounds. Using in-depth interviews and observing daily activities over 8 weeks, the

93

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/892376/COVID_stakeholder_engagement_synthesis_beyond_the_data.pdf

research provided deep insight into the impact of COVID-19 on participants' everyday life in the autumn of 2020.

The stakeholders involved in the PHE *Beyond the Data* report were from organisations (national, regional and local) representing various sectors and disciplines that work with and for people from ethnic minority groups. The RDU wanted to know more about how individuals responded and adapted to the pandemic socially, financially, in their homes and workplaces. This research of ethnic minority individuals was undertaken to provide a nuanced understanding of the motivations, interpretation and experience of the differential impact of COVID-19 on select people in the population.

A full summary of the project is included at Annex C. Important findings, particularly in terms of shaping communications, included:

- Trust in the sources of information was crucial for participants to accept public health messages
- Some participants felt stigmatised as transmitters of COVID-19, due to photographs and articles in the media implying ethnic minority groups were to blame
- The term BAME (black, Asian and minority ethnic) was unhelpful in understanding disparities between ethnic minority groups

Perceptions of the Pandemic research

The *Perceptions of the Pandemic* project gathered ethnic minority members of the public's views on the pandemic response across a wide range of government interventions. The results help to identify areas of good practice in terms of support services, communications and engagement activity. The results provide lessons for the future, applicable beyond pandemic responses. How to bring a more nuanced understanding of ethnic minorities into wider public policy and communications, including levelling up activity, will be a crucial takeaway.

The research used a mixed methods approach:

- The first stage was qualitative and largely exploratory investigating people's experiences of the pandemic, government interventions and the impact on individuals and their communities
- The information from the first stage led directly into the drafting of the survey questionnaire for stage 2
- The second stage collected quantitative data from a nationally (GB) representative sample of 1,500 ethnic minority people

The research took place during July and August 2021, when the vaccination programme was well under way and shortly after almost all restrictions had been lifted⁹⁴. When asked if the "government did everything I would reasonably expect", ethnic minorities consistently agreed more than disagreed. This support may help explain why 67% of ethnic minorities were very or quite concerned about the impact of the pandemic in its early months, substantially fewer

⁹⁴ The length of time that had elapsed since the pandemic began, together with more recent events, may have affected respondents' recall and feelings.

were as concerned when the research took place (41%). Those not very or not at all concerned more than doubled from 12% to 25%.

The reasons why people from ethnic minorities were concerned about the pandemic in July and August was because they feared catching COVID-19 (48%), were worried that the NHS is or will be overstretched (40%), or were worried for someone else (32%)⁹⁵. Being vaccinated (57%) was the main reason for respondents being less concerned about the impact of the pandemic when the research took place, suggesting that the availability of the vaccine was a significant factor in reducing ethnic minorities' concerns. This is further supported by the finding that the plan, speed, communications and booking of vaccines was rated good or very good for the majority of ethnic minorities.

Overall, only 21% of respondents agreed with the statement "I feel that my overall experience of the pandemic has been shaped by my ethnicity rather than other factors" (53% didn't agree and 26% said they did not know). These factors might include their health, finances and where they work, especially if they are key workers. The government has taken a comprehensive, evidence-based approach to understanding these factors and how they have shaped ethnic minority experiences and outcomes during the pandemic. This evidence-led approach has been an important part of the quarterly reports and has informed recommendations on health interventions.

Headline findings

The research generated a considerable amount of information that will continue to shed light on how people from ethnic minority groups perceived and experienced the pandemic. However, initial analysis has identified the following actionable insights:

Good practice that should be replicated

Both the COVID-19 testing and vaccination rollout were rated positively and can be considered examples of good practice. For example, the majority of ethnic minorities viewed each aspect of COVID-19 testing implementation as good or very good.

- The vaccination rollout plan and the communications around the rollout were rated highest of all government measures (rated very or quite good by 63% compared with around 10% quite poor or terrible). At least 70% of people from the Indian, Mixed White and Asian and Asian Other groups rated the communications around the rollout as very or quite good
- In addition, 72% of Pakistani and 71% of Black African respondents rated the availability of COVID-19 tests as very or quite good, 74% of respondents in the Asian Other group and 68% of respondents in the Indian ethnic group rated the communications around how and where to get a COVID-19 test as very or quite good, and 64% of respondents from the Pakistani ethnic group and 63% of Black African respondents rated the speed of getting the results back from a COVID-19 test as very or quite good.

⁹⁵ There are some variations within ethnic groups, however the sample sizes of 'people concerned now' are small and therefore only the results for the total group have been commented on

Furthermore, there was strong agreement⁹⁶ with the mitigation measures such as social distancing (77% agreed with the measure), self-isolation (78%), wearing facemasks (78%), and only traveling if essential (76%), and 45% of respondents agreed that “the government did everything I would reasonably expect to protect my health”. Awareness of the ‘test and trace’ system was also very high, with only 5% of respondents saying they had not heard of it, though almost half (49%) agreed that it was started too late.

Effective communications

When asked which sources they used to get information about COVID-19 and the UK’s pandemic response, over half of respondents said they used news on British TV (69%) and/or the daily press conferences from government officials (52%). These sources of news were also the most trusted (55% and 40% respectively). There have been well over 100 press conferences at 10 Downing Street in response to coronavirus, making them the principal means of informing and updating the public.

Respondents were also asked to rate the how well they thought the government communicated about 7 aspects of the pandemic response^{97 98}. For each aspect, a higher percentage of respondents rated the government’s communications as quite good or very good than quite poor or terrible. One way to build on this success is by providing as much information as possible about why decisions are taken and why new measures are being introduced, particularly when they may have a disproportionate impact on specific ethnic or religious groups.

- The communication of the vaccination strategy and rollout was the highest rated, with 60% of all respondents rating it very or quite good. This was followed by the communication of the national and local measures to reduce the spread of COVID-19 (49%)
 - 68% of respondents from the Indian group and 67% from the Mixed White and Asian group rated the communication around the vaccination strategy and roll out as very or quite good
 - 62% of respondents from the Bangladeshi ethnic group rated the communication of the measures to reduce the spread of COVID-19 as very or quite good
- Even the lowest rated communication aspects saw more ethnic minority people positively reviewing them than negatively reviewing them. Communicating health risks specific to ethnic minority groups and the reasons for those risks were rated very or quite good by 37% with 25% saying they were quite poor or terrible and as

⁹⁶ Respondents rated their agreement with each measure on a 6-point scale: agree totally, agree somewhat, neutral, disagree somewhat, disagree totally, or don't know. The neutral and don't know category has not been presented in these results.

⁹⁷ Vaccination strategy and rollout, National or local measures to reduce the spread (for example, isolation, social distancing, handwashing, wearing face masks), National or local support interventions (for example, furlough support, tenant protection, business grants), The steps to ease lockdown (that is, the roadmap out of lockdown), Public health risks generally, Public health risks to [ETHNICITY] and the reasons for this, Measures to address health risks posed to [ETHNICITY]

⁹⁸ Respondents rated each intervention on a 5-point scale: very good, good, neutral, quite poor, terrible. The neutral category has not been presented in these results.

- were communications around measures specific to ethnic minority groups to address those health risks (37% rating very or quite good compared with 24% quite poor or terrible)
- 47% of respondents from the Indian ethnic group rated the communication around health risks specific to their ethnic group and the reasons for those risks as very or quite good compared with 16% rating it quite poor or terrible
 - In contrast, 33% of respondents from the Black Caribbean group rated the communication around health risks specific to their ethnic group and the reasons for those risks as quite poor or terrible, compared with 32% rating it very or quite good
 - 37% of respondents from the Black Caribbean group rated the communication around measures specific to their ethnic group to address those health risks as quite poor or terrible compared with 29% rating it very or quite good
 - These differences between how communications were rated clearly illustrate the need to balance recognising ethnic group diversity, and not use umbrella terms such as BAME, with preventing stigmatisation and implications of blame:
 - The term BAME was considered unhelpful with between 38% of respondents (Black African and Chinese ethnic groups) and 59% of respondents (Bangladeshi ethnic group) agreeing with this statement
 - 40% of respondents said their ethnic group had been more affected by racism or racist abuse during the pandemic, and while 37% said their ethnic groups had been stigmatised, 41% considered other ethnic groups to have been stigmatised
 - The measures put in place to reduce transmission of COVID-19 were strongly supported with at least two-thirds of respondents saying they agreed or totally agreed with each measure⁹⁹. Face masks and self-isolation had the highest support with 78%, followed by social distancing with 77%
 - There were no significant differences between ethnic groups in support of face masks
 - Respondents from the White Other, (86%), Asian Other (85%), other (84%) and Indian (81%) groups were most likely to agree or totally agree with self-isolation requirements. In contrast, respondents from the Mixed White and Black African group were most likely to disagree or totally disagree (11%)
 - Respondents from the Asian Other (86%), Chinese (84%) and Indian (83%) groups were most likely to agree or totally agree with social distancing, whereas respondents from the White Other (14%) Mixed White and Black African (13%), Mixed White and Asian (12%) and Bangladeshi (11%) groups were most likely to disagree or totally disagree

⁹⁹ Respondents rated their agreement with each measure on a 6-point scale: agree totally, agree somewhat, neutral, disagree somewhat, disagree totally, don't know. The neutral and don't know category has not been presented in these results.

- The lowest levels of support were for school closures (65%), restrictions to religious worship (66%) and local lockdown and tier systems (68%)
 - 17% of respondents from the Mixed White and Black African group, 13% of respondents from the Mixed White and Black Caribbean group, and 11% of respondents from the Pakistani ethnic group 'totally disagreed' with the restrictions on regular religious worship
 - 14% of respondents from the Mixed White and Black African group, 16% of respondents from the Mixed White and Black Caribbean group 'totally disagreed' with school closures
 - 9% of respondents from the Mixed White and Black African group 'totally disagreed' with local lockdowns and tier systems

Furlough support (17%), payment deferrals (14%) and mental health support (14%) were the government support schemes used the most. Of those who used the schemes, over half said they were quite or very important to helping them manage the pandemic. Raising awareness of the financial support schemes and mental health support available is important as a large minority of people in some ethnic groups were not aware of them.

- Around 1 in 5 Black African respondents (19%) were not aware of the furlough scheme, 41% of respondents in the Bangladeshi and Chinese ethnic groups were not aware of the protection from eviction scheme, and 34% of Indian and 32% of Pakistani respondents were not aware of any mental health support schemes
- Of respondents who were still concerned about the pandemic, 1 in 4 (25%) were concerned about finances and the potential impact on their mental health if there is another lockdown

Of all respondents, 26% do not trust the vaccine and 16% disagree that we all have a duty to vaccinate. For the respondents who are still hesitant about the vaccine (9% of the total sample), reassurance is needed about side effects and the speed with which it was developed.

- The groups with the highest percentage of respondents likely to be hesitant about the vaccine were the Bangladeshi (19%), and Black African (18%) ethnic groups, people aged under 35 (15%) and parents of young children (15%)
- Of all respondents who were hesitant or not planning on having the vaccination (17% of the total sample), the main concerns were around the side effects (31%), the speed with which it was developed (32%), not trusting the vaccine (33%) and believing vaccination should be a personal choice (35%)

Address strong negative perceptions

People from the mixed ethnic groups were more likely to feel negatively about government actions – the inherent heterogeneity of these groups and their lower levels of identification with faith communities¹⁰⁰ may make them harder to reach out to.

- The way the government responded to the pandemic was rated as quite poor or terrible by 41% of respondents from the mixed ethnic group

¹⁰⁰ 40% of respondents from the mixed group stated they had no religion compared with 16% of Asian respondents and 14% of black respondents

- Similarly, 34% rated the government's general communications as quite poor or terrible and 39% rated the government's communications specific to this ethnic group as quite poor or terrible

Those not planning on having the vaccination were less likely to be concerned about the pandemic and more likely to rate the government's response poorly, so they may be more difficult to reach or influence.

- The 2 groups most likely to say they did not plan on having the vaccination were the Mixed White and Black African group (19%) and people who were not concerned about the pandemic at its start (18%)
- Other groups with a high proportion of respondents saying they were not planning on having the vaccination were those who are not concerned about the pandemic now (14%), those who rated the government communications (16%) and strategy (14%) poorly and people aged under 35 (14%)

Lessons learned

As noted, there are some key lessons to be learned from the insights work, many of which support the findings from work on other terms of reference. These are:

- Ethnicity is not the driving factor in how most ethnic minorities understood their experience of the pandemic. There is a need, therefore, not to assume anything about an ethnic minority individual's experience based solely on their ethnicity
- Treating ethnic minorities as a single group is counter-productive and can be stigmatising
- Trust in sources of information is essential for participants' acceptance of public health messaging
- Ethnic minorities felt stigmatised when they were singled out in communications to imply that they are somehow more vulnerable or are at fault for the spread of the virus
- There is still work to be done, in terms of building trust with those who are generally negative about the government's response to COVID-19, optimising vaccination uptake amongst different ethnicities and reaching out to those who are not adhering to guidance on self-isolating
- Non-traditional media and communications are an important way of sharing government messaging and reaching people who might otherwise be less engaged

Recommendations

- The government and health agencies must implement the lessons learnt from the COVID-19 insights work and in particular:

- Address specific ethnic minority groups rather than a homogenous group (through for example use of the term 'BAME') and
- Ensure that public health communications do not stigmatise ethnic minorities when explaining that they may be more vulnerable or at higher risk
- The government should carry out a review of language and terminology around ethnicity to understand how to target messaging without stigmatising any particular group.

5. Communications

Over the last period, the vaccination rollout programme has continued to be the main focus of COVID-19 public health communications. Alongside this, the government communicated the changes people needed to make at Step 4 of the 'COVID-19 Response – Spring 2021' Roadmap. Communication activities have continued to support tactical operations and engagement. While broader campaigns are ongoing, some of the additional activities for this quarter are outlined in this chapter. It also discusses how the government approach to COVID-19 communication evolved since June 2020 and offers lessons learned.

Communication activity since May 2021

Vaccination rollout

Since May 2021, activity has continued to focus on the vaccination rollout. Communications aimed to help address concerns of those hesitant about the vaccine. Allowing space to answer questions supported continued take-up of messaging.

To drive vaccine confidence among those communities with the lowest take-up, including black, South Asian, Muslim and Orthodox Jewish groups, communications took a 'by the community for the community' approach, and delivered activities across 3 tactical pillars:

1. Community engagement and outreach (sessions with trusted voices)
2. Media relations and community media partnerships
3. Marketing activities, including through tailored content creation

Insight-based, tailored content and campaign messaging that resonated with different ethnic minority audiences drove marketing reach and frequency. The government's approach has continued to consider diverse audiences and clear language. Due to the public health emergency, information was disseminated in multiple languages¹⁰¹, and through trusted stakeholders and media channels.

Strategic media planning across the mainstream campaigns has increased awareness of our key messages, reaching over 95% of ethnic minority audiences. The recall of these mainstream advertising campaigns is higher than average among ethnic minority audiences, including for the 'get your shot' youth campaign and the 'every vaccine gives us hope' campaign.

Top performing content this period includes 2 videos¹⁰² developed in June, featuring black and South Asian voices, showcasing the reasons they got vaccinated, despite their initial concerns. This was launched in the media, urging those concerned to speak to their vaccinated friends and family about their experiences. The videos received 78 pieces of media coverage through the course of July, with a combined reach of approximately 4

¹⁰¹ Translation into foreign languages is discouraged except in extraordinary circumstances because it conflicts with the government's approach to integration which relies on English language use.

¹⁰² <https://youtu.be/OCSameEcCil>, <https://youtu.be/cWwYcTpJUW4>

million. It was also shared on black and South Asian TV networks and radio stations, playing across 16 TV stations, with a combined reach of 3.8 million, and 14 radio stations, with a combined reach of 1.2 million.

Information sessions and videos resolving vaccine misconceptions were used to build trust, provide clarity and encourage uptake. Content was developed with the theatre, entertainment and sports industries to generate cultural interest. Top videos include the NHS and arts focused 'Rhythm of Life'¹⁰³, football focused 'Best Defence'¹⁰⁴, and for boxing 'Best Jab'¹⁰⁵. These had a combined reach of more than 1.5 million on the NHS channel. The videos featured industry talent representative of diverse ethnic and faith backgrounds, and received additional broad coverage in national and ethnic minority press, such as the Guardian, BBC Breakfast, the Eastern Eye and Asian Image.

Tackling vaccine mis and disinformation

This quarter, communication activities were tailored to address the specific risks of false information about the COVID-19 vaccine amongst ethnic minority audiences, including misinformation about the vaccine being linked to infertility.

To tackle this, a number of virtual events were organised with healthcare professionals for women of childbearing age, and those from ethnic minority backgrounds. Dr Kiran Rahim hosted a Facebook Live with Muslim Mamas covering the vaccine, pregnancy, fertility and breastfeeding. Dr Olamide Savage also answered questions on the vaccine and fertility in an Instagram Live session with The Motherhood Group, a community for black mothers. These virtual live sessions were promoted across various channels and platforms, generating over 10,000 views and resulting in strong engagement rates averaging around 40%. To date, DCMS's social media toolkit developed for their disinformation campaign has reached an additional 7 million people through stakeholders and partners. Organisations and individuals continued to push assets and key messaging out through their social media channels including Twitter, Instagram and Facebook and through community newsletters and daily bulletins, and within community forums and webinars.

Partner co-creation – communities and media channels

Strategic partnerships with multicultural TV partnerships, community radio partnerships and print partnerships with community titles have continued to further drive engagement and understanding. This period, the government partnered with 18 new community radio stations, delivering messages in 13 languages, including new content in Somali, Greek and Italian, reaching 1.6 million people. TV partnerships with 21 ethnic minority TV networks delivered bespoke adverts using well known talent shown across 44 TV stations, such as Colours and ROK, in 6 languages, reaching approximately 8.3 million people. Print and online material, including interviews and practical advice has appeared in over 600 national, regional, local and specialist titles including media for Bangladeshi, Gujarati and Pakistani communities, achieving a combined reach of 20 million. All content was tailored and

¹⁰³ <https://www.youtube.com/watch?v=CPjoQ3XpzkM>

¹⁰⁴ <https://www.youtube.com/watch?v=DZ7Vq4d0aJs>

¹⁰⁵ <https://www.youtube.com/watch?v=mH4ro37zyNM>

delivered through leading voices to drive awareness of the government's key messages focused on Twice Weekly Testing, Hands Face Space Indoors, Back on the High Street, and Step 3 Weddings and Wakes.

Stakeholder partnership activities saw the government continue to work closely with ethnic minority communities through co-creation and tailored content. This supported those receiving a vaccine and helped those with questions about COVID-19, the vaccination process, government advice and measures more broadly. For example, multilingual vaccine ambassadors have been deployed across 61 local authorities to encourage vaccine uptake through outreach and direct communication. Operating in over 20 languages, the team addressed questions and concerns on COVID-19 vaccines – as well as on testing, the NHS App, 'Hands, Face, Space and Fresh Air', and provided government guidance materials. Businesses including hair salons, restaurants and supermarkets were also offered advice on how to keep their business COVID secure. The teams were equipped with mobile printers, and helped businesses access and display QR codes, posters and encourage customers to check-in via the COVID-19 app.

Since this activity began in April 2021, the ambassadors have visited over 3,700 businesses, and had over 125,000 interactions with diverse communities in large cities including London and Manchester. The team noted a considerable increase in those that have had the vaccine since the activity began, with the conversations also assisting with the gathering of qualitative insights.

Broader communication messaging

Communication in this period continued to inform the public about Step 4 of the government's roadmap out of lockdown. Messaging informed the public of what they need to do to keep safe, get tested or receive the support they need while restrictions were lifted. A tailored, multi-channel approach continued to deliver this, utilising marketing, PR, partnerships and engagement. Evaluation of campaigns consistently show that those from ethnic minority groups are more likely than average to recall seeing or hearing the ads, including the 'Hands, Face, Space, Fresh Air' and rapid COVID-19 testing ads.

Other highlights in this period include:

- Tailored content in mainstream COVID-19 campaigns, to make them more relevant for ethnic minority communities, including NHS animated content in a range of languages, with a total reach of over 87,000 people
- An inclusive approach to press partnerships, reaching 20 million across 500 titles and 300+ outlets on themes including Twice Weekly Testing, Hands, Face, Space, Air, Back on the High Street, and Weddings and Wakes at Step 3 of the Roadmap
- Press partnerships with community titles, featuring 4 sponsored content pieces, in 12 languages, published in more than 23 community titles with a weekly reach of over 500,000
- Radio partnerships with 15 community stations and an additional 18 new stations. Increasing reach with syndicated content in 13 languages, such as Bengali, Chinese, English, Filipino, Gujarati, Hindi, Mirpur, Punjabi, Urdu and Somali. This has doubled our combined reach to 1.5 million

- New partnerships continue with multicultural TV channels, including 44 channels broadcasting in 6 languages, with a reach of 8.3 million
- Partnered with 6 healthcare professionals explaining the importance of twice weekly testing in English, Urdu, Hindi, Bengali, Somali and Polish across 18 TV channels and social media with an estimated 5.8 million reach
- Briefings were arranged with 20 ethnic minority medics, which has been shared on broadcast slots including Dr Nighat on BBC Breakfast (2.13 million reach) and This Morning (1.5 million), Dr Emeka on GB News, Dr Ranj on This Morning, and Dr Amir on Lorraine (1.3 million)

Summary of approach to communications since June 2020

Government communication efforts initially focused on providing advice, guidance and supporting the public in managing behaviours to reduce the risks of COVID-19 infection and transmission. National marketing campaigns initially targeted the population as a whole. Though a significant amount of activity was delivered at low or no-cost, an estimated £446,517,000 was spent on the national cross-government COVID-19 Public Information Campaign in FY20/21, to promote the latest public health guidance to around 66 million citizens in the UK to save lives and protect the NHS¹⁰⁶. This campaign was aimed at the whole population. As a result, the campaign reached 95% of adults on average 16 times per week. Communications spend also took place through the Community Champions scheme.

Following the PHE review, the central COVID-19 Communication Hub worked closely with colleagues across other government departments and agencies to reach those most disproportionately impacted by COVID-19, including ethnic minorities.

The government ensured a multichannel communication strategy to address language and cultural barriers, with a particular emphasis on targeted community engagement to reach those who may be at greatest risk. Beyond the paid-for marketing campaign, government communications also delivered low or no-cost activities, working with partners, local authorities, and specialist marketing agencies to develop tailored messaging, shared through strategically chosen channels and trusted voices to reach ethnic minority audiences.

Content – format and languages

Core marketing materials, communications assets and guidance materials were translated into multiple languages, such as Bengali, Chinese, Gujarati, Hindi, Punjabi, Urdu and Somali, with additional translations supported where local authorities required them to reach their residents. Translation was a priority for government communication, given the extraordinary public health imperative in this instance¹⁰⁷, to reach those whose first language is not English and/or who have other accessibility needs. The government provided accessible versions of communications content, including videos in British Sign Language and guidance and communications in Easy Read and Large Print formats. Feedback highlights that the Easy Read formats have also been a helpful resource for those without proficiency in English.

¹⁰⁶ HM Treasury, March 2021, [Central Government Supply Estimates 2020-21](#)

¹⁰⁷ Translation into foreign languages is discouraged except in extraordinary circumstances because it conflicts with the government's approach to integration which relies on English language use.

Media partnerships

As part of 'government first' partnerships with trusted community media outlets, the government began working with specialist ethnic minority titles across different languages, which have proven reach with ethnic minority audiences.

Partnership content featured leading experts from the national COVID-19 *Public Information Campaign*, as well as relevant local GPs to create bespoke double page spreads focusing on key messages such as Hands, Face, Space and Fresh Air and Test, Trace and Isolate. The success of this tailored and targeted approach to media partnerships was replicated through expansions to other channels over the course of the year, such as multicultural TV broadcast channels and radio partnerships with community titles, increasing reach with syndicated content in various languages.

The government also worked with existing influencers and continued to recruit new ones who could communicate public health messages with credibility and impact among those less likely to trust or respond to government sources. Evaluation of influencer activities found that micro-influencers were more relevant at the local level, delivering more targeted communications. Following the success of activities in Leicester as part of the local lockdown campaign, micro-influencers now form a key part of the government's influencer communication strategy. Alongside this, long-term partnerships were developed with the Premier League and English Cricket Board to reach priority audiences, particularly young people and those from South Asian groups. Sports was an important interest point that helped increase reach and will continue to feature in influencer and partnership activity going forward.

Religious relevance

Reiterating health messaging around key calendar moments, such as religious festivals or cultural events for all audiences, also formed a core pillar of the central COVID-19 marketing strategy. Bespoke creative content and messaging was developed factoring in linguistic, cultural and religious holiday interests. For example, dedicated festivals guidance was developed for gov.uk, with advice on how to celebrate safely. This was supported by roundtables chaired by the Minister of Faith, held regularly with faith leaders to advise on, co-create and share communication for specific festivals to their wider communities. These included translations of safe worshipping and gathering guidance ahead of festivals, including Yom Kippur, Sukkot, Shavuot, Ramadan, Eid, Vaisakhi, Diwali, Easter and Christmas. This secured on-the-ground insight into the audience, and informed tailored messaging according to grassroots-level concerns of the diverse communities. Messaging was religiously relevant and helped build trust.

Evidence-based approach

Wider communication campaigns were tailored to tackle some of the underlying causes of COVID-19 disparities amongst ethnic minority audiences. PHE developed a *Better Health* campaign in July 2020 to reduce obesity and other comorbidities more prevalent within these groups and associated with worse COVID-19 outcomes. Though the campaign focused on different audience segments, research and insights helped target specific ethnic minority audience segments who had higher rates of obesity or prevalence of diabetes. These audiences included Black African, Black Caribbean, Indian, Bangladeshi and Pakistani ethnic groups, with campaign advertising being translated into Arabic, Bengali, Gujarati, Hindi, Somali and Urdu.

Audience insights were central to the government's strategic communication efforts. There has been a continued focus on improving understanding of ethnic minority audiences, as well as the interests of different specialist media channels.

Audience insight established robust benchmarks that helped understanding of specific behaviours and attitudes towards COVID-19 amongst people from ethnic minority backgrounds. This insight was then used to develop a tailored behaviour change approach, with messaging focused on shifting these attitudes and behaviours, and any changes being measured against the baseline.

This research provided detailed analysis on awareness of social distancing guidance and recognition of public health campaigns, and perceptions of localised campaigns. Insights gained from this workstream were fed into future communication to improve awareness of health messages and compliance, with activities targeting groups who were most at risk. This also enabled further disaggregation of the audience analysis underpinning communication targeting, building on the nuances in attitude and behaviours between different groups that were observed in Leicester lockdown research.

Audience segmentation

Government communication reflected the findings of this research through an updated communication strategy, ensuring that ethnic minority audiences were not treated as a single group and that public health messaging was not stigmatising. For example, in the second wave, the risk of mortality was reduced for some black ethnic groups (when compared with the white group), and was increased for the Bangladeshi and Pakistani ethnic group. Government communication focused on promoting messaging that was tailored and based on this insight.

For example, the government issued new and updated guidance on preventing transmission of COVID-19 within households. This included the PHE guidance 'How to stop the spread of coronavirus (COVID-19)' published in February 2021¹⁰⁸, which was translated into 30 different languages, including Bengali and Urdu. This was particularly important as South Asian ethnic groups are more likely to live in large and multigenerational households.

¹⁰⁸ <https://www.gov.uk/government/publications/how-to-stop-the-spread-of-coronavirus-covid-19>

However, it was important to ensure that South Asian groups were not stigmatised, particularly as new variants of COVID-19 emerged, and the government continued efforts to build trust among these groups. Communications ensured that messaging was sensitive to the communities, and that the variant was referred to as the Delta variant and not the Indian variant. The government also continued work with the BBC Asian Network and BBC World Service to produce COVID-19 videos to address important questions from South Asian groups, delivered through trusted voices and outlets.

NHS Test and Trace messaging, and COVID-19 communications for mass gatherings such as religious festivals, were coordinated through a cross-government working group, working particularly closely with MHCLG and Cabinet Office to ensure messages were culturally sensitive and relevant. The Places of Worship Taskforce and Faith Leader roundtables provided insight on festivals and events, which were used to communicate COVID-19 messaging and any step changes in the PM's roadmap. For example, dedicated guidance was developed and shared on gov.uk's Places of Worship page and Festival guidance page to advise on restrictions and best practice, shared and updated ahead of specific religious festivals and events.

In May 2021, the Minister for Equalities reached out to Embassies and High Commissions from countries whose nationals were most at risk. Their recommendations allowed the government to build on its communications approach among diaspora groups, improving reach and addressing their needs.

Vaccine communications

In the second quarter, as the new vaccines were announced, a concerted effort was made to understand and overcome concerns about the vaccines among ethnic minority audiences. To improve its understanding of vaccine concerns, the government worked with over 90 faith and healthcare provider networks, influencers and experts from a range of communities. As a result of these new relationships, further sessions and engagements were developed to address specific concerns, and these relationships have continued to be utilised to test and inform the approach to communication for ethnic minority audiences.

Research gathered insight on the barriers to trust and uptake of vaccines. Findings suggested that ethnic minority audiences were concerned about suspected side effects, vaccine ingredients, and safety. The government implemented a tailored approach to counter misinformation, both nationally and locally, focusing on the safety and efficacy of the vaccine. Faith leaders then assisted by mitigating concerns about ingredients and the permissibility of the vaccines.

The focus of public health communication then changed to launch an integrated government campaign to improve understanding and awareness of COVID-19 vaccinations, including among ethnic minority audience segments and increase their confidence to take up the vaccination. This involved using effective media channels and building on relationships established with influencers and local communities to reach ethnic minority audiences. Content included information about vaccines in multiple languages and advertising used specialist and traditional media, as well as social media, including Facebook and Twitter, featuring well-known medical professionals and disseminating important messaging to hundreds of local contacts, such as faith leaders.

For example, government communications worked with Muslim faith leaders to develop messaging to encourage testing, around social distancing and to encourage vaccinations during Ramadan and in light of congregational prayers. As a result of these relationships, communications around vaccines are continuously improved and tailored, to reflect learning and insights from communities.

The government has worked with specialist agencies to hold a series of roundtables for ethnic minority healthcare professionals and religious leaders to act as ambassadors within their communities. Dr Raghil Ali, one of the government advisers on COVID-19 and ethnicity, and other healthcare experts have played important roles in supporting this effort alongside ministers.

Audience mis and disinformation

To tackle mis and disinformation among ethnic minority audiences, the government regularly produced myth-busting content, utilising trusted platforms and messengers within communities and taking specific targeting approaches on social media channels. For example, government communications developed answers to specific 'myths' about the vaccine to engage women from the Ultra-Orthodox Jewish community, clarifying concerns and questions around the vaccine being kosher, and perceived links to fertility, pregnancy and breastfeeding.

Partnerships with respected community figures and organisations, including places of worship, were used to help build trust in the Test and Trace service and dispel existing myths and alternative narratives on the vaccinations.

The Department for Digital, Culture, Media and Sport also developed a campaign to help tackle the spread of false information about the COVID-19 vaccine, following Scientific Advisory Group for Emergencies (SAGE) research showing low vaccine uptake amongst people from ethnic minority backgrounds. Similarly, an Ofcom study showed that people from ethnic minority backgrounds were twice as likely as white respondents to rely more on people they knew, people in their local area or people on social media for information about Coronavirus and vaccines.

To tackle vaccine disinformation, the government worked with various stakeholders and community organisations to launch a social media toolkit, with shareable content designed to encourage people to check the authenticity and credibility of information before passing on and sharing it online, as well as educating and empowering target audiences with knowledge on how to spot misinformation and stop its spread online.

The campaign was developed with and fronted by trusted local community figures such as imams, pastors and clinicians, who featured in short, shareable videos which include simple tips on how to counter misinformation within their communities. The assets were designed to be shared via WhatsApp and Facebook community groups, as well as Twitter, YouTube and Instagram, to tackle false information spread through private channels.

Social media toolkits continued to be developed and updated further throughout the campaign to address narratives that insight showed were being shared widely across social media at certain times, for example misinformation about not being able to take the vaccine during Ramadan, or about the vaccine being linked to infertility. Specific communication strategies were developed to address fertility concerns among women, especially from ethnic minorities, including a series of videos with midwives, health visitors and expectant mothers on the benefits of vaccination.

ONS data showed that vaccination rates were lowest among those who identified as Muslim, and communication was shared through local Muslim health professionals and networks to enhance trust and credibility in the vaccination programme and messaging, and address concerns around the vaccines breaking fasts. These included advertising multi-lingual messages on local faith-based community radio stations, increased visibility in the mainstream media of vaccinations being delivered in places of worship, and advertising vaccine information in Eid magazines and Ramadan timetables that were developed at regional and local levels.

The concept of family vaccinations was also reflected in communications issued by the NHS to support vaccine uptake during Ramadan 2021, and content was provided and sponsored through the local council of mosques (or equivalent) and delivered coordinated daily messages and Friday sermon campaigns. Other activities included a series of videos with Dr Amir Khan, a GP from Yorkshire, whose video on the vaccine being halal reached more than 330,000 people.

Trusted voices

In addition to paid-media partnerships, a number of prominent ethnic minority celebrities and influencers stepped forward, with calls to their communities to take up the vaccine. This included an 8-week engagement programme focused on the Bangladeshi ethnic group, summarised in Chapter 1.

Likewise, communications were developed to increase COVID-19 vaccine confidence in Black African and Caribbean groups in London. This included a partnership with predominantly African and Caribbean churches and others to develop a series of online community dialogues to provide factual information about the vaccine and create a safe place for questions and challenge. An open letter from Sir Lenny Henry and a range of other high-profile celebrities encouraged black audiences in the UK to make informed decisions about the vaccine. Supported by the NHS, the letter was turned into a short film which was aired across various channels. Another video featured black Members of Parliament from the Conservatives and the Labour Party, who came together to share personal stories of losing loved ones, warning against the spread of misinformation and encouraging communities to take the vaccine.

Communications worked with over 200 community, faith and health care professionals, organisations, community and social influencers, including 20 black-majority church leaders to encourage vaccine uptake across England through tailored content creation and PR outreach. There has been a continued focus on building trust amongst the audience and developing deeper engagement through these community partnerships – mobilising over 120 trusted voices across events and media, with a collective reach of approximately 3 million.

Overall findings from these initiatives suggest increases in both positive vaccine sentiment and vaccine uptake over time across all ethnic groups, although variances still remain. While positive vaccine sentiment has increased over time, residual hesitancy continues to be addressed. The increase in vaccine confidence amongst the black population is substantial but it is still lower in this group than any other. The black ethnic group reports the highest vaccine hesitancy at 18% compared with the 4% national average. The government has continued to tailor its communication strategy on vaccine rollout to reflect the latest evidence on vaccine uptake among ethnic minority groups.

Lessons learned

The government's three-pronged approach to communication helped raise awareness, further understanding by engaging through partnerships and embedded deeper engagement with the community to build trust amongst the target audience. There are 6 key learnings to take forward for communication:

- 1. Build on existing networks for continuous information sharing:**

Working together with diverse networks provides trusted, open forums to discuss concerns and allows credible experts to explain the science and facts. This helped to communicate specific messages tailored to each community, through a 'by community, for community' approach. This also helped develop bespoke content that recognised groups within groups, with multiple ethnicities and age groups that need tailored communication.

- 2. Making communications specific and relevant to the audience:**

Ensuring content is relevant to and representative of communities, with no stereotyping or stigma, is vital to its impact. Tailored assets with relevant voices and

faces help with awareness, recall and uptake. This also aids cut-through of messages which are competing with other content targeting our audiences. The use of translations into multiple languages also helped land the messaging with target audiences. The government also worked closely with local authorities to ensure communications were provided to best support their residents.

3. Going beyond traditional media and communications:

Using a wider range of channels and approaches to communications were crucial to reaching audiences who might not always engage with traditional media. Tailoring content and partnering with specialist media helped to cut through and to land messages.

4. Co-creation was the most effective way to harness trusted brands and voices:

An important way that the government delivered specific and relevant communication was through co-creation with key community partners. This ensured content resonated with their communities. The campaign co-created content with other organisations to ensure engagement on their channels and through media. Multicultural TV partnerships used influential and recognisable voices to share simple messages. Community radio partnerships provided an opportunity to use local voices, while print partnerships with community titles enabled more in-depth content to be delivered.

5. Partnering directly with social media platforms enables reach through relevant content:

Working directly with platform owners ensured our content, such as videos featuring black and South Asian experiences getting the vaccine, could be shared with the specific audience alongside relevant content they already consume on those platforms, allowing for better reach and audience targeting.

6. Grass root activation enables further reach:

Communications mobilised multilingual street ambassadors to build trust and directly engage with those who may not have engaged with other media and content online. The Community Champions scheme helped to tap into local networks and worked with councils to identify barriers to accessing accurate information and to provide tailored support and communication. These activities engaged audiences through trusted voices who could tackle any misconceptions about the vaccine, encourage vaccinations, testing and other safe behaviours.

7. Providing people with communications tools and materials:

Providing a ready-made and easy to use vaccine misinformation social media toolkit gave people the tools to be able to share information across their channels. MHCLG helped support the cascade of the DCMS toolkit through a network of 200 faith leaders, ensuring that briefing could take place with local sector organisations to ensure broader reach with local government, as well as working with the Local Government Association to set up a webinar to discuss the toolkit with local government. A simple toolkit including ready-made downloadable assets in different formats plus example social media and newsletter copy made it much easier for

stakeholders to share who may have little time or resources to create their own. Providing this information allows concerns to be raised and questions to be asked, and empowering trusted voices to hold that conversation and respond to concerns directly.

Recommendations

- The government should use the COVID-19 experience of reaching ethnic minority groups for future public health campaigns. This should include activities to:
 - Develop and provide materials in multiple languages and formats, including BSL, easy read and audible formats, to ensure content addresses any difficulties to reach diverse audiences
 - Build on community partnerships and work closely with local networks to improve understanding and gain insight into the audience
 - Utilise community partners to co-create content and tailor communications that resonate with key audiences
 - Communicate key messages through community partners and specialist media and digital channels, using trusted voices to land messaging where necessary

Annex A: Terms of reference

Term of reference 1: Review the effectiveness and impact of current actions being undertaken by relevant government departments and their agencies to directly lessen disparities in infection and death rates of COVID-19.

Term of reference 2: Modifications to existing, or development of new policy, should be considered and discussed with the relevant ministers responsible. This ongoing work will include looking at the extensive guidance that is already currently available.

Term of reference 3: Commission further data, research and analytical work by the Equality Hub to clarify the scale, and drivers, of the gaps in evidence highlighted by the report.

Term of reference 4: Consider where and how the collection and quality of data into the disparities highlighted can be improved on, and take action to do so, working with the Equality Hub, government departments and their agencies.

Term of reference 5: Lead engagement on the disparities highlighted with departmental ministers

Term of reference 6: Build on and expand the stakeholder engagement undertaken by PHE, to consolidate and develop the qualitative insights gained and how they may support further actions that should be taken to address the disparities highlighted

Term of reference 7: Strengthen and improve public health communications to ensure they can reach all communities across the country

Term of reference 8: Provide quarterly updates to the Prime Minister and Secretary of State for Health and Social Care on progress being made to address health inequalities by departments and their agencies.

Annex B: Progress implementing recommendations and next steps from first 3 reports

Recommendations from the first quarterly report

Recommendation 1 - NHS England must ensure that Trusts implement NHS plans for the next stage of the pandemic, and that these plans continue to reflect the latest evidence about ethnic disparities and risk factors.

Status

Completed

Progress update

On 25 March, NHS England and NHS Improvement (NHSEI) former chief executive Sir Simon Stevens and chief operating officer Amanda Pritchard wrote to NHS organisations to outline the fourth phase of the response to COVID-19 and the NHS's priorities from 1 April 2021.

The focus for this phase is on recovering NHS services through enhanced system working. Implementation guidance has also been published. The guidance includes a priority to accelerate preventative programmes that proactively engage those at greatest risk of poor health outcomes including ethnic minority groups.

Recommendation 2 - Departments must put in place arrangements for the effective monitoring of the impacts their policies are having on people from ethnic minority backgrounds including:

- **the uptake of particular COVID-19 policies or grants of funding by ethnic minority individuals and groups**
- **monitoring and assessing the level of infection, hospitalisation and mortality rates across ethnicities, where appropriate**
- **assessing how effectively these policies have been understood by those people at whom they are targeted**

Status

Completed

Progress update

The RDU has worked with departments to assist them in putting effective monitoring arrangements in place through a cross-government working group on addressing COVID-19 disparities amongst ethnic minorities.

A technical annex setting out how to measure ethnicity impacts was also developed.

Examples include building in monitoring structures into the Community Champions scheme to ensure that the programme delivers assistance to those groups who most need it.

Recommendation 3 - Light-touch review of action taken by local authorities and Directors of Public Health to support people from ethnic minority backgrounds, in order to understand what works at a local level.

Status

Completed

Progress update

RDU conducted this rapid review in time for the Second Quarterly report by focusing on local authority areas, identified by MHCLG under the Community Champions applications process, with larger proportions of at-risk communities and entrenched community transmission of COVID-19, using a variety of data sources. The findings from this are summarised in Chapter 1.

Recommendation 4 - Departments should continue to work at pace to develop new policy interventions to mitigate COVID-19 disparities, informed by the latest evidence.

Status

Ongoing

Progress update

This work is ongoing as departments are continuing to develop interventions to address the disproportionate impact of the pandemic. A summary of government interventions to date, and how these changed over the lifetime of this project, is included in Chapter 1 of this report.

Recommendation 5: Support should be given to the development and deployment of a risk model to understand individual risk that is being developed from research commissioned by the CMO by an expert subgroup of academic, scientific and clinical experts and the University of Oxford.

Status

Completed

Progress update

The QCOVID research was peer-reviewed and published in the British Medical Journal in October 2020, approved by the Medicines and Healthcare products Regulatory Agency in December and independently validated by the ONS in January 2021. The clinical tool was made available across primary and secondary care as a secure public beta webtool from 16 February 2021.

Recommendation 6 - Ensure that new evidence uncovered during this review relating to the clinically extremely vulnerable is incorporated into health policy.

Status

Completed

Progress update

The QCOVID model enabled DHSC to incorporate the findings from the research into national policy and has used it to identify a new cohort of patients at equivalent risk to the Clinically Extremely Vulnerable. This group was added to the Shielded Patient List as a precautionary measure, and was entitled to priority access to the COVID-19 vaccine.

The Joint Committee for Vaccination and Immunisation also reviewed the underlying data from the QCOVID model in shaping its advice on COVID-19 vaccine prioritisation. The Minister for Equalities has also shared the findings from the first 3 quarterly reports with the JCVI.

Recommendation 7 - Government departments and academics should prioritise linkage between health, social and employment data to build a complete picture of ethnic group differences in COVID-19 risk and outcomes.

Status

Ongoing

Progress update

ONS linked health and mortality statistics with census 2011 to obtain employment and social characteristics. The latest analysis from ONS took all these characteristics into account. Viruswatch provided further evidence on the risk of transmission for certain occupations. The University of Leicester provided evidence on the risk of transmission for Healthcare workers and shift workers. UK-REACH is exploring further the risk of transmission for Health care workers so this work is continuing.

Recommendation 8: RDU should introduce and publish a new "Summary of evidence about COVID-19 and ethnicity" report, working collaboratively with external experts, which would be updated every time (significant) new statistics and research are published.

Status

Completed

Progress update

In December 2020, ONS introduced a COVID-19 Dashboard (including a section about ethnicity), which provides an easily-accessible and up-to-date summary of the main statistics about COVID-19. This is regularly updated.

Recommendation 9: The recording of ethnicity as part of the death certification process should become mandatory, as this is the only way of establishing a complete picture of the impact of the virus on ethnic minorities. This would involve making ethnicity a mandatory question for healthcare professionals to ask of patients, and transferring that ethnicity data to a new, digitised Medical Certificate Cause of Death which can then inform ONS mortality statistics.

Status

Ongoing

Progress update

This work is well underway. DHSC laid a Statutory Instrument and accompanying Directions in December 2020 which made changes to the regulations governing GP contracts.

The overall approach still remains to make ethnicity a mandatory question for healthcare professionals to ask of patients, and transferring that ethnicity data to a new, digitised Medical Certificate of Cause of Death.

Recommendation 10 - Minister for Equalities to work with ministerial colleagues to establish metrics for assessing the impact of their policies to tackle COVID-19 disparities.

Status

Completed

Progress update

The Minister for Equalities wrote to ministerial colleagues in December 2020 encouraging departments to establish metrics for assessing the impact of their policies, accompanied by a technical annex setting out some of the important considerations when developing metrics based on ethnicity.

Recommendation 11 - There should be a series of roundtables over the coming months involving faith leaders and other community representatives and focussing on those groups that are most at risk from COVID-19.

Status

Completed

Progress update

MHCLG has led on engagement with faith groups throughout the pandemic and the Minister for COVID-19 Vaccine Deployment attended a number of stakeholder events to promote vaccine uptake among ethnic minority groups and to combat misinformation about the COVID-19 vaccines.

The Minister for Equalities and RDU have hosted a series of roundtables between February and May on promoting vaccine uptake amongst South Asian groups and Black African and Black Caribbean Groups. Participants included faith leaders, community representatives and Commonwealth High Commissioners which generated a number of ideas and insights on how to improve vaccine uptake in these cohorts.

Recommendation 12 - Work must continue on improving public health communication to enable the successful delivery of existing and new interventions to all parts of the community including hard-to-reach groups, especially those at greatest risk in areas of local lockdown and rising concern.

Status

Ongoing

Progress update

Since the first quarterly report, there have been a number of partnerships with trusted community media outlet to better engage hard-to-reach groups, including more than 50 ethnic minority titles across 10 different languages, 43 ethnic minority TV channels within a combined reach of 9 million and 14 community radio stations that broadcast in 13 different languages and reach 881,000 ethnic minority people every week. This is in addition to more specific engagement with faith leaders and other stakeholders.

Translation continues to be a priority to reach those whose first language is not English and/or who have other accessibility needs. This includes translation of videos into British Sign Language and posters into Easy Read and Large Print as well as language translation. In addition to the translation of national assets, local authorities can request translations of

their own assets.

The work to improve public health communications will continue during the lifetime of the pandemic.

Recommendation 13 - Dispel myths, reduce fear and build confidence among ethnic minority people. Over the coming months, the COVID Communications Hub in the Cabinet Office will need to keep sharpening its focus on rebuilding trust in government messaging, tackling misinformation and anti-vaccination narratives and encouraging engagement with NHS services.

Status

Completed

Progress update

Since the start of the pandemic, specialist government units have worked at pace to identify and rebut false information about coronavirus, including the vaccines. The cross-government Counter Disinformation Unit (CDU) brings together different monitoring teams across Whitehall including teams in the Home Office, Foreign Commonwealth and Development Office and the Rapid Response Unit (RRU).

To tackle mis- and disinformation among ethnic minorities, the government regularly produces myth-busting content, utilises trusted platforms and messengers within communities and takes specific targeted approaches on social media channels (such as Facebook and Instagram). We also use native language publisher sites such as Asian Voice, Leader, The Nation, JC and Desi Express as part of ongoing partnership work.

There has been an extensive cross-government campaign to encourage vaccine take up, specifically looking to tackle mis and disinformation and build vaccine confidence among ethnic minority communities. The campaign has included content with well-known personalities and medical professions aimed to build confidence and trust in the vaccines, across a range of channels from social media to media partnerships.

Next steps from the second quarterly report

1.1 Ministry for Housing, Communities and Local Government (MHCLG) to share with local authorities examples of good practice from the review of local authority activity.

Status

Completed

Progress update

MHCLG ran a programme of best practice webinars between local authorities and disseminated best practice materials via an online portal which can be accessed by local authorities who are not in receipt of Community Champions funding.

1.2 MHCLG to share with local authorities the findings from the initial, one-month review of returns from Community Champions.

Status

Completed

Progress update

Summaries of the monthly returns from the Community Champions scheme are included in subsequent quarterly reports. Participating local authorities are also encouraged to share knowledge, resources and practical solutions with non-funded local authorities to ensure other areas and their local communities benefit indirectly. For example, MHCLG is partnering with the NHS to host an online forum for both funded and non-funded areas to come together, download resources and discuss methods and techniques to engage disproportionately impacted groups.

1.3 Minister for Equalities to write to the Joint Committee on Vaccination and Immunisation (JCVI) summarising the latest data and evidence set out in this report, to inform future advice on vaccine prioritisation.

Status

Completed

Progress update

The Minister for Equalities wrote to the JCVI in March following publication of the second quarterly report.

1.4 The government will continue to monitor data on vaccine uptake among ethnic minority groups and, if necessary, take further steps to address any barriers among these groups.

Status

Ongoing

Progress update

NHS England produces weekly statistics on the number of people vaccinated by ethnicity and age, ethnicity and region. They also produce vaccine uptake rates by ethnicity for adults and people aged over 50. In addition, OpenSAFELY produced weekly updates by ethnicity and age group.

This is an ongoing commitment, with COVID-19 booster vaccines now being deployed.

1.5 The RDU will share the findings from the qualitative research into people's personal experiences of COVID-19 across government, particularly in relation to the stigmatisation felt by a number of participants in relation to being singled out as BAME.

Status

Completed

Progress update

Presentations were given to individual government departments on the findings from the qualitative research. A summary of the findings can be found in Chapter 4.

1.6 Departments and other agencies should publish a statement on gov.uk outlining their plans to move their data collections to the Government Statistical Service's (GSS) harmonised ethnicity data standard. Harmonisation is hugely important as it allows analysts to gain deeper insight and value from data.

Status

Ongoing

Progress update

RDU analysts are exploring the feasibility of this with the GSS Harmonisation Champions group. This work can be progressed further when a new harmonised standard is confirmed.

1.7 NHSEI, working with DHSC and others, should publish a quarterly report on progress in improving the recording of ethnicity in health care records.

Status

Completed

Progress update

RDU worked with analysts in PHE to produce the first progress update which was included in the third quarterly report. This was about determining ethnicity in health datasets to improve the accuracy of the coding.

Annex F to this quarterly report summarises progress on different strands of improvements to health ethnicity data.

1.8 Departments should provide updated datasets on COVID-19 risk factors and secondary impacts for publication on the Ethnicity facts and figures website in line with the schedule in Annex C [of the second quarterly report]. This provides transparency of process to users, promoting trust and authority, as well as informing them when the most up-to-date data will be made available.

Status

Ongoing

Progress update

This work is ongoing as shifting departmental priorities and reduced resources have delayed the delivery of data and publication of a handful of measures.

1.9 The Minister for Equalities, the government advisers on COVID-19 and ethnicity, and the RDU will continue a programme of engagement over the next quarter. This will include work to promote vaccine uptake, alongside the engagement led by the Minister for COVID-19 Vaccine Deployment.

Status

Completed

Progress update

In the third quarter, the Minister for Equalities held roundtables with black and Asian faith leaders and Commonwealth Heads of Mission. Other stakeholder engagement activities included bilateral meetings with Professor Andrew Goddard, President of Royal College of Physicians and Dr Thomas Waite, Deputy Chief Medical Officer.

She was supported in this work by Dr Raghieb Ali, one of the government's independent advisers on COVID-19 and ethnicity. He participated in a number of webinars and question and answer sessions to tackle disinformation and promote vaccine uptake. This included events with the British Pakistan Foundation, the NHS Muslim network and Muslim Doctors Association, and numerous faith groups and community organisations.

1.10 The government will continue to tailor its communications strategy on vaccine roll out to reflect the latest evidence on vaccine uptake among ethnic minority groups.

Status

Ongoing

Progress update

Vaccine confidence (positive sentiment) has increased since December 2020 and the majority of people say they have already been vaccinated, or would be likely to accept a vaccine.

This is an ongoing commitment as the vaccine deployment continues.

1.11 The government will work closely with the new Community Champions to disseminate important public health messages, promote uptake of vaccine and tackle misinformation

Status

Completed

Progress update

The government has continued to work closely with the Community Champions. Additionally, as part of this scheme, funding was also provided to Strengthening Faith Institutions (SFI) and Near Neighbours (NN) in order to utilise their networks with at-risk communities. Both organisations are partnering with a host of community organisations as well as Community Champions across England and are making a real difference in vaccine uptake.

For example, SFI, in collaboration with community partners and champions, has organised 15 community-led webinars and roundtables to date. These include consultations with NHS Test and Trace for South Asian, black, Jewish, Sikh and other groups, and webinars for Arab Muslim, Gujarati Khoja, Somali, black Christian and black Muslim groups.

1.12 Government communications will reflect the findings of the qualitative research into people's personal experiences of COVID-19 and will ensure that ethnic minorities are not treated as a single group and that public health messaging is not stigmatising.

Status

Ongoing

Progress update

Communications activity continues to align with the wider government messaging to avoid stigmatisation. The government has sustained a tailored approach to communicating with people from different ethnic minority groups, taking into account their own cultural and religious considerations, providing information in multiple languages, and working with partners, influencers and media channels who resonate and are trusted by specific ethnic minority groups, extending the reach and efficacy of messaging.

Next steps from the third quarterly report

2.1 The Minister for Equalities to share the findings of her third quarterly report with the Joint Committee on Vaccination and Immunisation.

Status

Completed

Progress update

The Minister for Equalities wrote to the JCVI in May to share the findings of the third quarterly report.

2.2 Department of Health and Social Care (DHSC) to consider how to apply the findings of the review of experiences of frontline healthcare workers and the UK-REACH study.

Status

Ongoing

Progress update

RDU analysts are working in partnership with Dr Pareek and Dr Ali on a project to understand the factors and circumstances that may have contributed to the deaths of healthcare workers from COVID-19.

2.3 NHS England's published data on vaccination uptake by ethnicity should be further disaggregated to provide percentage uptake by vaccine priority group cohorts and sex. This should include levels of unknown ethnicity and an assessment of how this might affect the interpretation of vaccination uptake for different ethnic groups.

Status

Ongoing

Progress update

NHS England produces weekly statistics on the number of people vaccinated by ethnicity and age, ethnicity and region. They also produce vaccine uptake rates by ethnicity for all adults and people aged over 50.

2.4 NHS England and Improvement (NHSEI) should publish data about the use of the NHS COVID-19 app by different ethnic groups. This will inform activity to increase the uptake and continued use of the app.

Status

Ongoing

Progress update

Work on this is underway. Data on the use of the app by ethnic minorities has not yet been published.

2.5 DHSC and the NHS should further investigate practical barriers to vaccine uptake by ethnicity to assess and address any intention-action gap.

Status

Completed

Progress update

DHSC has undertaken work to engage with specific groups/forums who have lower uptake of the COVID-19 vaccine to gain insight as to what may be driving hesitancy in their communities, what are the barriers to access to the vaccine and feedback on how effective implemented interventions have been.

For instance, the then Vaccines Deployment Minister chaired a NHS Youth Forum Roundtable on 30 June to draw on perceptions and experiences from this group, to gain insight into vaccine hesitancy in young people, to understand what might be driving apprehension and what could be done to address it.

Earlier insight pieces from both the Cabinet Office and NHSEI informed a number of interventions to address identified barriers to vaccine uptake within specific groups. For example, a lack of accessibility to vaccines and the need for targeted communications were identified as barriers to uptake for certain communities. Interventions such as mobile delivery models, and translation of messaging into various languages, have helped to address these barriers.

DHSC continues to explore the possibility of commissioning further behavioural insights to help inform decision-making on interventions and support continued uptake of COVID-19 vaccines across groups.

At a local level, qualitative information and insight on the reasons for vaccine refusal is collected. DHSC has worked with the ONS to review survey options related to asking the wider population questions related to vaccine hesitancy.

2.6 DHSC should ensure that NHS organisations and GPs are provided with clear guidance and protocols about how ethnicity should be requested and recorded in health records.

Status

Ongoing

Progress update

DHSC is working with NHSEI, NHS Digital and other partners on the alignment of ethnicity data. The aim is to support meaningful comparisons of data on the access to, and experience of, health services and health outcomes. It will also enable policies and decisions to be based on better or more complete data.

2.7 RDU should engage with the Office for Statistics Regulation about priorities for improving the quality (including harmonisation, robustness and reliability) of ethnicity data on health records, drawing on others' expertise as appropriate, and report back in the final quarterly report.

Status

Completed

Progress update

RDU and OSR hosted a joint roundtable event with ONS and the other main health departments in August 2021.

Priorities for improving data quality were discussed at the roundtable, and the results are outlined in the data quality section of this report.

2.8 The Minister for Equalities and the Minister for COVID-19 Vaccine Deployment will continue a programme of engagement in the next 3 months, focusing on promoting vaccine uptake and encouraging asymptomatic testing, particularly for those within higher risk occupations, as sectors reopen.

Status

Completed

Progress update

A summary of stakeholder engagement over the last period is set out in Chapter 4.

2.9 As the COVID-19 vaccine rollout continues, the government's Vaccine Confidence campaign will aim to inform, educate and empower those aged 18 to 50 to take up their vaccine. Using the tagline 'Every Vaccination Gives Us Hope' content will take an optimistic tone, aiming to reach and persuade younger audiences, including ethnic minority groups.

Status

Completed

Progress update

Communications and campaign activity has focused on encouraging COVID-19 vaccine uptake as the vaccination rollout programme expands, as surveys conducted by the ONS have shown an increase in vaccine confidence amongst ethnic minority groups during this quarter. This activity built on relationships established with influencers and local communities, and uses effective media channels to reach ethnic minority groups with information about vaccines.

2.10 At each step of the government's roadmap out of lockdown, tailored guidance and communications will continue to be shared through community and media channels to maximise reach and impact.

Status

Completed

Progress update

Communications and campaign activity has focused on encouraging COVID-19 vaccine uptake as the vaccination rollout programme expands, as surveys conducted by the ONS have shown an increase in vaccine confidence amongst ethnic minority groups during this quarter. This activity built on relationships established with influencers and local communities, and uses effective media channels to reach ethnic minority groups with information about vaccines.

Annex C: Ethnic minority experiences of COVID-19

Introduction

Public Health England's Beyond the Data report, summarised engagement with external stakeholders, which sought to understand the impact of the pandemic on ethnic minority groups. It suggested that issues of stigma, racism and fear needed to be addressed.

Concerned about how the pandemic was impacting the everyday lives of people from ethnic minorities, the RDU commissioned an in-depth research project from Policy Lab. RDU wanted to know more about how individuals responded and adapted to the pandemic socially, financially, in their homes and workplaces. This research would provide a nuanced understanding of the motivations, interpretation and experience of the differential impact of COVID-19 on participants. 12 people from a variety of backgrounds were interviewed and provided films of their lives during August and September 2020, before the start of the vaccination deployment. The findings from the research were included in the body of evidence that informed subsequent policy development and communications.

These sections set out Policy Lab's work and details the research insights, as well as explaining the value, limitations and methodology of the research approach they adopted.

Aims of the research

There were 2 main aims for the Policy Lab study. The first was to gather deep insights about the impact of COVID-19 on the everyday lives and experiences of people from ethnic minority groups.

To build on the findings from PHE, Policy Lab was asked to consider the following themes when gathering insights:

- Stigma, racism and discrimination – for example in healthcare, social care and frontline services
- Communications around COVID-19 – for example from government, the local community, and faith groups
- Everyday experiences –for example how housing, finance, education and employment were affected
- Future impacts of COVID-19 – for example how the pandemic has impacted people's future finances, social lives and political perspectives

The second aim was to make sure these insights would be useful for government departments, including PHE, to support the development and improvement of the government's COVID-19 response. Despite the small number of participants, including these findings in the wider evidence base could provide departments with an understanding of people's experiences and enable them to consider the wide-ranging risks from COVID-19 that have been identified within ethnic minority groups from a new perspective, helping to mitigate and address them more holistically.

Context of the research

It is important to place this research appropriately during the pandemic, as the situation across the country has altered rapidly and erratically over the 18 months. The timing of the research will have a bearing on the optimism and knowledge of the participants, and thus potentially on their reflections of the previous months and interpretations of their contemporary situation.

This research took place during September and October 2020. During August, many restrictions had been lifted and in September children had returned to school. However, by the end of September, the 'rule of six' had been introduced with further restrictions imminent, the 3-tier system of local lockdowns was introduced in mid-October and a 4-week national lockdown began on 5 November. While there was discussion of a potential vaccine by the Health Secretary in early September, it wasn't until early December that the first vaccine was approved¹⁰⁹. A fourth, stricter, lockdown tier came into force in London and the South East on 21 December.

If this research was repeated, it is likely that perspectives will have changed again to reflect the optimism from the vaccination roll-out as well as the concern about the Delta variant.

Methodology

This exploratory study used a qualitative film research approach to provide insights about individuals' complex social realities, experiences and perspectives of the COVID-19 pandemic. This ethnographic exploration involves a rigorous and systematic process for data collection, analysis and presentation of insights. Experienced social researchers conducted participant-led interviews and interacted with participants on WhatsApp to engage with participants remotely within their own environment. An experienced video ethnographer was recruited to edit the raw research film footage into films around the emerging themes.

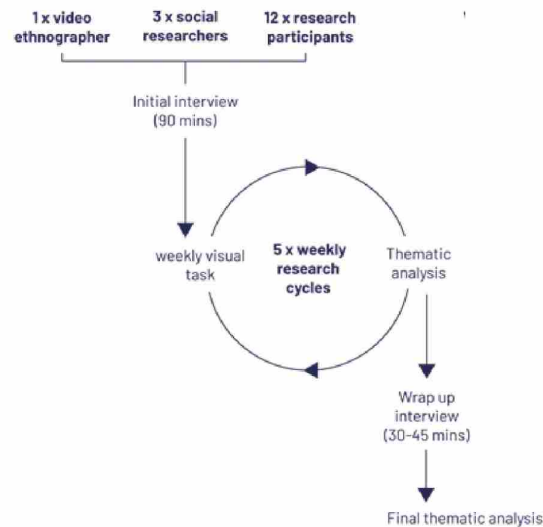
There were 12 participants in total – 8 participants were recruited via a specialised research agency, and 4 participants via not-for-profit organisations to ensure the involvement of those who may be experiencing digital and social exclusion. Using the findings from the PHE reports to inform participant diversity, the 12 participants included different ages, sexes, sexualities, households, religions, geographies and socioeconomic statuses (though there were some limitations to the sample).

The research comprised 3 key activities over the course of 6 weeks, with weekly activities which were responsive to the participant's circumstances and what they shared with their researcher:

1. Initial interview with researcher (90 minutes, Week 1)
2. 5 visual weekly activities (in participants own time, Weeks 2-6)
3. Wrap up interview (30 to 45 minutes, Week 6)

¹⁰⁹ <https://pharmaceutical-journal.com/article/feature/the-covid-19-vaccines-being-backed-by-the-uk-and-when-we-might-get-them>

Diagram of Policy Lab's data collection and analysis



Strengths and limitations

The strengths of this research are that it:

- is a rigorous form of social research that can often reveal things that quantitative work cannot, such as why and how patterns in statistical data may have emerged
- involves engaging with individuals in their own environments, providing a different perspective from how participants might recall their behaviour in interviews
- provides focused and nuanced insights into the social realities, experiences and perspectives of a group of people, including how they experience and respond to government policy

These should be set against some limitations, including that:

- The small sample size means findings cannot be generalised across populations as participants can only speak of their own lives and experiences
- Some important populations were not directly included in this group of participants, particularly people aged over 70 and those living in care homes
- As with all qualitative research data collection, participants may be influenced by the presence of, and relationship with, social researchers, when taking part in research
- Retrospective studies, where participants are asked to describe events in the past can be affected by recall bias (misremembering), social desirability bias (claim to have complied with guidelines in order to not look like they are breaking the rules) and acquiescence bias (inclined to provide answers that sounded more positive)
- As with any research, participants' responses are trusted to be that person's views and experiences. Information provided by respondents is not independently verified. In addition, with large sample quantitative studies, it is possible to identify outliers which, though truthful, may distort the general picture. This is not possible with small sample studies

The following section outlines the main themes that emerged from the 6 weeks of research with the participants.

Findings



Over the course of the 6 weeks of interaction between the social researchers and the participants, a significant amount of data was generated. This included over 70 hours of video material and information gathered through initial and wrap up interviews with participants. The curation of the video material and thematic analysis of the interviews led to the emergence of 6 main themes:

- Communication and compliance
- Identity
- Home, place and space
- Risk and perception of risk
- Disruption and adaptation
- Histories and futures

These themes clearly overlapped with the findings from the PHE stakeholder engagement and as the focus of the research was co-directed by the participants themselves, this overlap indicates that the experiences of our 12 participants were not uncommon.

1. Communication and compliance

Key insights

- Trust in the sources of information was important to participants' acceptance of the message conveyed
- Navigating the advice and complying with it in everyday situations was challenging for participants when it conflicted with health or financial necessities
- Some participants felt stigmatised as transmitters of COVID-19 due to photographs and articles within the media that implied blame on ethnic minority groups

1.1 Participants sifted and navigated COVID-19 information based on trust

Most participants reported receiving information about COVID-19 from official sources, such as government announcements or gov.uk. They also felt that they were sufficiently aware of the guidelines. However, they made continual assessments of the accuracy and credibility of the guidelines based on their levels of trust. These levels of trust varied on a range of factors that included familiarity with the source and when information was corroborated through trusted relationships.

"I'm on WhatsApp groups, family groups so I get updates on there... obviously I trust the information on them probably more than some of the news outlets." (Participant A)

Nearly all participants encountered misinformation. In order to limit the vast amount of information that was emerging from official and unofficial sources, many participants self-imposed limits to reduce their exposure to misinformation, to limit their fear of the pandemic and to protect their wellbeing.

"I wouldn't criticise the government for not giving out enough information..." (Participant J).

1.2 Inequality in the ability to comply with pandemic regulations

Despite a high awareness of COVID-19 rules, some participants reflected on the difficulty of applying the advice to everyday situations.

"You try to keep your distance from people but when you go to a supermarket and you're walking around it's impossible to keep your distance..." (Participant G).

Compliance was challenging as some participants felt they did not always have the ability or tools to adapt to changing regulations.

In addition, the responses of many participants about lockdown regulations suggested that they were unclear about the reason why certain areas were selected for different lockdown measures. Due to this, some developed their own ideas about why decisions were being made, which particularly related to the ethnic diversity, geographical and class differences in these areas.

“Have you noticed it's all the poor areas they have started to do this to...it's hitting all the poor, the northerners.” (Participant J).

Some participants felt that there was a disconnection between those setting new protective measures and the public because of a lack of understanding and recognition of how the measures would affect the daily life of some people.

1.3 Perceived tensions in government regulations damaged trust and compliance

The need to introduce regulations to control the spread of COVID-19 affected the ability of different communities to observe religious and cultural festivals in the usual way. People were under ‘stay-at-home’ rules during Easter, and events such as Leeds and Notting Hill carnivals were cancelled. However, Participant D amongst others, felt that some last minute announcements, such as the restriction on household mixing in the North West the day before Eid celebrations, were insensitive with the impact on the large Muslim population in the area overlooked.

“Overall it's difficult to follow the guidelines and trust what they say... especially for me when the updates came out the day before Eid.” (Participant D).

Some participants found the regulations and their enforcement to be inconsistent and said this caused confusion and undermined trust, while prominent examples of non-compliant behaviour of some celebrities caused mistrust too.

1.4 Media narratives perpetuating blame on certain communities

The messaging about the pandemic from the media on occasion was felt by participants to reinforce stigma and worsen social divisions. Such messages through articles and photographs were felt to blame and single out certain ethnic minorities for being at higher risk of infection and transmission of COVID-19. As such, participants reflected on how this has exacerbated existing stigmas and created new ones, for example, ethnic minority groups being responsible for the spread of the virus.

“I think a lot of people from the settled community thinks we're a lot more contagious and people seem to be keeping back from us” (Participant G).

2. Identity

Key insights

- Identities are often over-simplified
- Labelling ethnic minority groups as vulnerable creates stigma and fear
- Experiences of racism were exacerbated by the pandemic

2.1 Participants see their own identities as fluid and complex

Participants spoke about identity in various ways including their racial or ethnic identity. This included their birthplace, childhood, migration status, current residence, sexual orientation, gender, class status, age, disability and employment. In addition, most participants referred to experiences of racism and exclusion from wider society. Some participants also referred to experiences of migration and trauma when discussing their identity, as each of these experiences helped to shape and develop that person's sense of self. Even so, identifying with an ethnic group can bring positive experiences of belonging as well as negative experiences of exclusion.

“My mom is Black African, my dad is Greek. I born in Congo, Belgium, Burundi. I grow in Athens. I have Greek education. I am a Yorkshire boy... Yorkshire is the number 8 language I try to speak.” (Participant F)

“I feel like I am British now. In a way, I feel like I'm connected to London. I've connected to this area and I feel this is my home.” (Participant I)

It is also important to recognise that participants' sense of identity shifted throughout their everyday lives, with aspects becoming more or less important in different moments or interactions. As such, the label BAME (which is an acronym for black, Asian and minority ethnic), used often in the media and in early government messaging, oversimplified their experiences and created the impression of a homogeneous group that did not reflect participants' nuanced and fluid identities.

A similar finding was made by the Commission on Race and Ethnic Disparities, which in March 2021 recommended that aggregated and unhelpful terms such as BAME, should stop being used¹¹⁰.

2.2 Using BAME framing is unhelpful to understanding disparities between ethnic minority group

The main effect of using BAME as an amalgamated term was to exacerbate and amplify participants' feelings of risk and stigma in relation to COVID-19. The research found that being informed about “BAME vulnerability” through the media pushed participants to consider themselves only through the lens of their minority identity, making them fearful about their biological vulnerability to COVID-19.

“You see it on the TV, that those who are from ethnic minorities are those who tend to die... I feel that I have come out of prison and within the next three years I will catch Corona and die. It's a real fear for me.” (Participant K)

However, most participants wondered whether they were actually more at risk – they felt that the reasons why people from ethnic minority groups were more vulnerable than white people

¹¹⁰ <https://www.gov.uk/government/publications/the-report-of-the-commission-on-race-and-ethnic-disparities> (recommendation 24)

were unclear, and that criteria other than ethnicity, such as social and economic circumstances, should be considered.

“Black people are more inclined to get Covid for whatever reason that might be. It might be because of austerity.” (Participant L)

Further to this, some participants used their own reported historical experiences of exclusion, poverty and discrimination to explain their perception of vulnerability.

2.3 Experiences of racism were exacerbated by the pandemic

The research also found that the pandemic and particularly the use of generalised statements in media reporting of the pandemic, had increased participants' feelings of being stigmatised and discriminated against. Some participants suggested that ethnic minority groups were being blamed for COVID-19 transmission.

“We had a few experiences where there was like British White people and they see us and they are physically -- especially when we're going for walks, as well -- they'll literally stand on the edge of the path. It's almost like they're going to fall off.” (Participant D)

It should be noted that that participants discussed discrimination associated with the pandemic occurring between and within ethnic minority and religious groups as well as between white and ethnic minority groups. For example, Participant C spoke of witnessing people from the Chinese ethnic group being avoided at university because COVID-19 was first identified in China.

Wider social and cultural events also affected participants' sense of identity. Though not directly related to the pandemic, for 3 of the 12 participants, the protests last summer was perceived as an important moment for speaking out against racism, discrimination and historical exclusion.

3. Home, place and space

Key insights

- Participants experienced differences in access to space, security and comfort
- Availability of space, inside or outside the home reportedly impacted participants' wellbeing, compliance with guidelines and risk mitigation

3.1 Participants experience a diversity of home domains

Home conditions were the primary domain through which participants experienced the pandemic. The 'home' included a diverse range of kinship arrangements, physical locations, and for some participants, shifting arrangements over time.

Being retired, Participant L enjoyed life at home. He was able to make a space in the shed for his disabled son, to give him a space to relax in. He also took comfort in giving time to the garden and having outdoor space.

But this experience was not available to all participants: Participant J unexpectedly had to share her small flat in London with her adult daughter. She struggled with the limited physical space and the uncertainty about how long she would have to live there.

Another participant, Participant K, left prison with £45 in his pocket just before lockdown. Initially he lived in an approved hostel, but was deeply unhappy there. He then shifted between his mother's overcrowded house, his partner's home, and a tent.

"At my mum's house, I have three brothers, a sister and two nephews that live in the house... that's 8 of us in a 3 bedroom house. When I stay I'm sleeping on the floor." (Participant K)

Towards the end of the research, his housing officer found him a new home. The strong formal support network including his support officer, his GP and multi-agency police protection around Participant K contributed to him moving to his own home during the pandemic.

3.2 The availability of space directed participants' adaptations

The type of housing conditions and sense of home affected participants' wellbeing and ability to cope with the consequences of the pandemic and shaped their experiences. Participants' homes and neighbourhoods were simultaneously sources of anxiety, and precarity as well as sites of refuge and comfort. For anyone unable to maintain a safe, secure and hygienic home for whatever reason, the effects of the pandemic were understandably intensified.

Participant G explained how access to water was a challenge for Romany gypsies and other travelling populations. The closure of buildings with public facilities, such as leisure centres, compounded this and added to their challenges.

Participant A simultaneously enjoyed the comfort of her new home, but felt alienated from her immediate neighbours. Her new neighbourhood was further from her family and friends, but her living conditions improved because she was no longer in a damp flat. She enjoyed working from home, as it relieved the pressure of having to fit in with her colleagues in the workplace but she also missed regular adult company.

"I love my little house... It really feels good to say that I actually love being at home. As much as I still struggle with my mental [health]... I do get lonely sometimes, but I do enjoy being at home now." (Participant A)

Working from home was an adaptation that Participant D was also able to establish for the first time. This created greater flexibility for his family, which allowed him to support childcare responsibilities and daily routines.

4. Risk and perception of risk

Key insights

- Multiple factors influenced participants' perception of risks, including impacts of religious and ideological beliefs, exposure to media and existing individual experiences of COVID-19. As such, management strategies were based on each individual's assessment and interpretation of cumulative perceived risks
- Participants felt that associating higher risk with ethnic minorities increased existing stigma, particularly when generalised risk statements were made by the media on this group's risk without providing the appropriate rationale behind the statement

4.1 Individuals perception of risk may reflect personal beliefs, media and personal experiences

Participants' perceptions of risk were not fixed, such that the same participants could simultaneously feel that social restrictions were excessive, while perceiving the disease as very real and frightening. One participant stated that he believed in herd immunity for most people, but vulnerable people should still shield. A few participants were confused about their own risk and whether they should trust government communication while others who experienced confusion deliberated whether or not they 'believed' in COVID-19 at all. This impacted what they defined as risky and how they managed it, for example, Participant K's assessment of risk was made in relation to close family's beliefs.

"I believe in Corona, my partner isn't too sure if she believes in it, my sister is the same, I'm not too sure but I still worry about it and am taking the precautions." (Participant K)

4.2. Associating ethnic minority vulnerability to COVID-19 has exacerbated stigma

Participants expressed concern about being perceived as risk-givers and related this to existing stigmas about their ethnic group. Perceptions of risks were also shaped by media communications, particularly those that singled out ethnic minorities as suffering increased COVID-19 transmission.

"You see it on the TV, that those who are from ethnic minorities are those who tend to die." (Participant K)

Others felt that there were graver health risks than COVID-19 to their ethnic group that received little interest or attention, such as Lupus.

4.3 Assessment and prioritisation of different risks

All participants' risk-management strategies were developed in response to a complex set of cumulative perceived risks. Some participants felt that there was added awareness that their ethnic identity placed them at higher risk. Lack of access to technology for some had an impact on how risk of COVID-19 was managed. For example, Participant C's grandparents relied on him and his family to provide and interpret information regarding the pandemic. Some participants perceived that the risk of COVID-19 had to be balanced with everyday

necessities such as financial, health, wellbeing and caring responsibilities. One participant spoke of being caught between her financial obligations and caring for her family.

“I can be around complete strangers at work, who are not social distancing... I’m putting myself at risk just to make money, but I can’t see my grandma who is really struggling.” (Participant A)

4.4 Difference between wider narratives of risks and individual perceived risk

Some participants considered that they were overly saturated with messages of risk, with cumulative announcements regarding the ongoing pandemic, Brexit and other potential threats producing feelings of fear and frustration. Other participants believed that the government focused on morbidity and hospitalisation risks from COVID-19 but ignored others, such as the effects of lockdown on population mental health.

“We have the highest rates of mental health and suicide in Europe, probably, anyway, before lockdown. And I believe it’s going to skyrocket, certainly.” (Participant D)

5. Disruption and adaptation

Key insights

- Ability to adjust is influenced by social and economic resources available, leading to a varied sense of control amongst participants
- Perceived lack of formal mental health support has led to individual strategies for self-care
- Networks and relationships have intensified with kinship groups often becoming smaller and more resilient through mutual care giving bonds

5.1 Ability to adapt and adjust is largely dictated by resources available

Across the 12 participants there was a range of access to financial resources. At one end, Participant D was able to work from home and continue almost as normal, whereas Participant J was forced into part-time time work because of the COVID-19 restrictions. With help, Participant G’s family was able to access grants for the self-employed, which after having no work for 3 weeks *“helped a great deal”*. The research found that participants’ ability to adapt and adjust, along with their sense of hope and pragmatism, was largely influenced by the resources available.

“I don’t know how they can say you have to live off this and it has to pay your bills, your gas, your food. I don’t know how people survive.” (Participant A)

Participants discussed access not only to financial resources but also social, familial and environmental resources, as support networks and kinship groups were disrupted by social restrictions necessitated by the pandemic. A few participants cited the impact on other family members as a factor that reduced the resources available for mutual support. For example, one participant was concerned about her sister being made redundant, while another had to support his mother through a deteriorating domestic situation.

The availability of resources also impacted upon participants' self-perceptions. Furthermore, ongoing uncertainty was also cited by participants as impeding their ability to control their own lives.

"I'm going to be a prisoner in my house and I didn't know how long it was going to take" (Participant I)

Participants also felt that some announcements of pandemic regulations were at the last minute, and this compounded their perception of a lack of control.

5.2 A perceived lack of mental health support meant people became self-reliant

As a result of the added pressures from the pandemic, most participants reported an adverse impact on their mental health. Participants with pre-existing health conditions such as depression and anxiety felt that their conditions worsened. Although participants did report accessing a variety of support services, including from medical and social services, some did not feel that the support they were offered was effective in helping them manage the challenges they were facing.

"I'm not really happy with the doctor I spoke to. I don't think she took what I was saying seriously. I think she was thinking ... everyone is going through the same thing." (Participant A)

Some participants created their own strategies for self-care. One participant turned to alternative therapies to reduce anxiety and stress. Another participant felt fortunate that there was a park nearby where he could walk, helping to relieve and reduce panic attacks.

Reliance on self-care rather than formal treatment for mental health was sometimes motivated by the perception that service providers were overstretched.

"The helpline from the government - I don't bother with it. It takes so long to get through to somebody that I would rather do it myself." (Participant J).

5.3 Relationships and care giving has been intensified

Overall, the pandemic led to the intensification of individuals' support networks. Participants highlighted how they adapted to the situation by depending on particular relationships that they could access. While some intensifying of relationships had been negative, for example the breakdown of relationships due to the strain of close proximity or extra caring responsibilities, many were positive, through the re-enforcing of existing bonds or support from unexpected networks.

Participant H and her sister made a 'bubble' with their neighbour, leading to reciprocal support and companionship.

“We're very very good friends. All through this bubble. This house just here...I've just run round with [her neighbour's] tea, the curry, and she's just made these buns, look at the lemon curd... Ain't she done a good job.”
(Participant H)

Participant K had recently been released from prison. He described how proud his probation officer was of him, and the importance of his partner in getting him through this difficult time. Participant D spoke of how his relationship with his manager has deepened because of the extra support offered to him during the pandemic.

6. Histories and futures

Key insights

- People's insights, interpretations and outlook of the pandemic were influenced by personal cultural histories and experiences
- Participants' existing perceptions of their place in society and their understanding of racism have been heightened by COVID-19
- Re-evaluation of the “now” in the era of COVID-19 and different ideas of the new normal has led to new expectations of what the future looks like

6.1 Participants histories and experiences ground their perspective

Past experiences and trust in public services and institutions shaped how the participants engaged or did not engage with public health messages, with some believing there were links to wider conspiracy theories. For example, Participant K grew up in the care system as a child and this experience may have informed his distrust of government rules and responses.

“This whole track and trace is just the start of it... it's a way for the government to monitor your every movement.” (Participant K).

In addition, Participant C believed that a lot of people from his ethnic group were more likely to have the perspective that “they know more than the government,” which would affect the way they engage with official messages. He gave the example of his grandparents who considered the threat from COVID-19 to be exaggerated.

6.2 Social perceptions and consciousness of racism recast in the context of COVID-19

The pandemic led to greater risk of mortality amongst ethnic minorities largely due to a range of geographical and socioeconomic factors sometimes more prevalent in, but not unique to, their ethnic group. While the majority did not think about race or ethnicity in their everyday life, some did express feelings that the general narrative and public discourse about the links between ethnicity and COVID-19 left them feeling singled out because of their ethnicity. Alongside local issues, global and international events, such as the Black Lives Matter movement and Brexit have thrust issues of race into the mainstream, which for some have been challenging.

“...Imagine being born in a country that you feel you don't belong to, that's kind of how it feels really. ...Ethnic minorities at the minute are struggling and feeling even more lost.” (Participant A).

This evidently contrasts with statements made by Participant F (“*I am a Yorkshire boy...*”) and Participant I (“*I've connected to this area and I feel this is my home*”) who, having migrated to Britain, feel that they have assimilated into British society. However, it must be remembered that a person's sense of belonging is deeply personal and can be influenced by a variety of factors.

6.3 Re-evaluation of the 'now' and different ideas of the new normal has led to revised visions of the future.

The dramatic changes brought about by the pandemic had revised participants' visions of the future, speculation about that future varied widely with differing visions of what the 'new normal' may look like. Some participants felt their loss of control equated to a loss of rights, and the revising of rules by the government resulted in the inability to plan, fostering for some a sense of being trapped.

“You feel like your rights are being taken away and you're not being notified. The laws keep changing.” (Participant L).

Some participants reported that future comfort was associated more with financial security than with their health status as although they had remained untouched by illness, they had been affected by financial hardship and personal restrictions.

There was also some sense of forced positivity to counter negative experiences during the pandemic, where participants described the importance of having things to look forward to and getting back to normal activities.

“I just don't seem to be thinking for the future or any long term plans, so my plan now is just to basically keep going, try to find a job, save as much money as I can and just try to keep upbeat because it's been really really hard.” (Participant J)

Dissemination and application

A summary of these findings was in the second quarterly report on progress to address COVID-19 health inequalities¹¹¹. Within the 6 themes identified, the most noteworthy points for the RDU were that:

- participants felt that their ability to adapt and adjust, along with their degree of hope and pragmatism, was largely dictated by the social and economic resources available

¹¹¹ <https://www.gov.uk/government/publications/second-quarterly-report-on-progress-to-address-covid-19-health-inequalities>

- participants' perceptions of risk were influenced by their beliefs, exposure to media and personal experiences of COVID-19, among other factors. As such, management strategies were based on each individual's assessment and interpretation of these complex and cumulative risks

An update on the measures taken to address COVID-19 disparities was reported in the 'Third quarterly report on progress to address COVID-19 health inequalities'¹¹².

Dissemination across government

The RDU has also shared these findings with a variety of government departments through policy-focussed workshops. 8 webinars were conducted between April and May 2021 to a total of 131 attendees from various governmental departments including Public Health England national and regional teams. While noting that a study of 12 participants is not large enough to use as a foundation for policy development in isolation, departments reported having found the insights useful and informative.

Attendees recognised the unhelpful and stigmatising language used in the media, including the use of BAME as a 'catch all'. It was noted that such language serves to disengage, isolate and stigmatise ethnic minority populations. Attendees also noted the theme of trust in government and other institutions and also that trust between the public and institutions is essential to society as a whole.

Discussions also centred around the COVID-19 restrictions and the impact of these restrictions on the individual's support system – for example, restrictions on gathering in religious buildings, when faith was observed as a pillar of support for some of the research participants. The discussions included generating ideas to enhance support, particularly around faith, family and friends.

Positive developments were also discussed in the webinars, with some participants suggesting that access to healthcare services has improved for some groups during the pandemic.

Evaluation

Overall, this investigation and analysis of the experiences of participants from ethnic minority groups during COVID-19 highlighted some of the everyday issues people had to confront during the pandemic. These findings were particular to the research participants and due to the sample size could not be considered to represent any group more widely. RDU and Policy Lab ensured findings and insights reached colleagues across government, where they were well received. This summary ensures that the insights from this investigation are available to those outside of government working to reduce COVID-19 and post pandemic disparities.

¹¹² <https://www.gov.uk/government/publications/third-quarterly-report-on-progress-to-address-covid-19-health-inequalities/third-quarterly-report-on-progress-to-address-covid-19-health-inequalities#measures-to-address-covid-19-disparities>

Annex D: Further data and evidence

This annex sets out in more detail the data and evidence summarised in Chapter 2.

Differences between the first, second and third waves

The third quarterly report set out the differences between the first wave of the pandemic (24 January 2020 to 31 August 2020) and the second wave (1 September 2020 to 31 January 2021) using ONS analysis of COVID-19 mortality. Their analysis modelled hazard ratios, which measure the relative risk of death for ethnic minority groups compared with the majority White British ethnic group. The model was adjusted iteratively to explore the change to the hazard ratios once different factors were accounted for.

This section updates the analysis of relative risk set out in the third quarterly report using hazard ratios. It also describes the absolute risk of death using annualised age-adjusted mortality rates (AAAMRs).

Hazard ratios

ONS' latest analysis^{113, 114} incorporates COVID-19 deaths during February and March 2021 and updates the time periods for the 2 waves. The first wave is considered to be the period from 24 January 2020 to 11 September 2020¹¹⁵ while the second wave is from 12 September 2020 to 31 March 2021. ONS also expanded the population of the study to include people who live in different residence types (care homes and other communal establishments), where previously the analysis had only looked at individuals who lived in private households¹¹⁶. The model adjusted only for age quantifies an ethnic group's risk of mortality compared with the White British population. The model adjusted for residence type (private residence, care home or other communal residence), geography, socioeconomic factors and pre-existing health conditions quantifies how much risk is due to these factors. Any residual risk is currently unexplained by measurable risk factors.

113

<https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/articles/updatingethniccontrastsindeathsinvolvingthecoronaviruscovid19englandandwales/24january2020to31march2021>

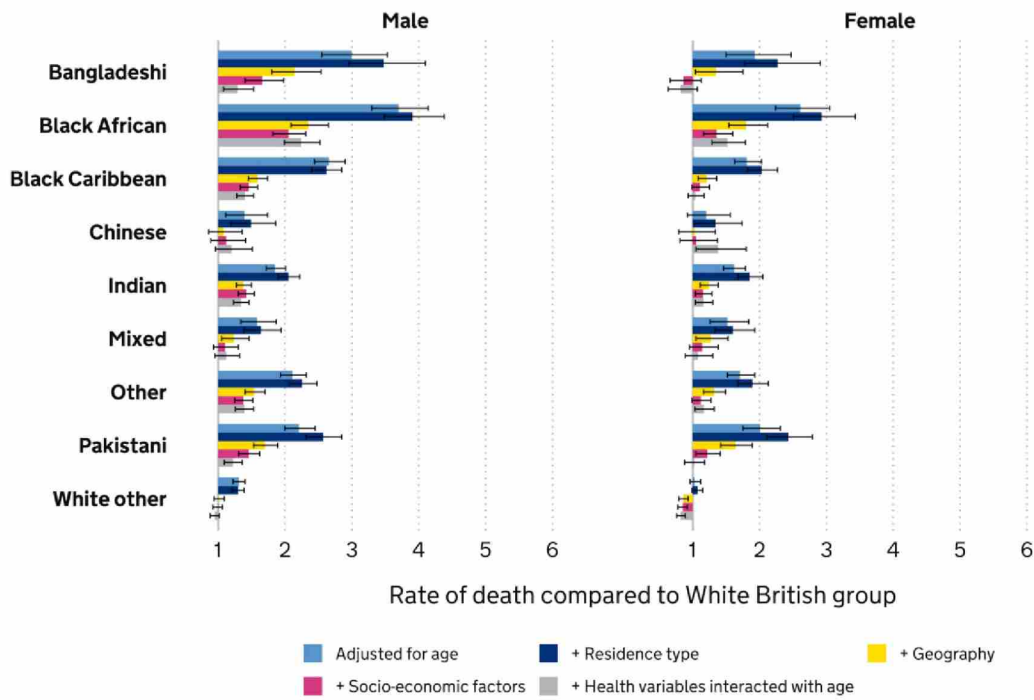
114

<https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/adhocs/13485modelestimatesofdeathsinvolvingcovid19byethnicgroupandsexforthoseaged30to100yearsofageinthefirstandsecondwavesofthepandemicengland24january2020to31march2021>

¹¹⁵ The end of this time period was moved from 31 August 2020 to 11 September 2020 to better reflect the demarcation point between the first and second waves, as determined by the date when deaths began to increase again

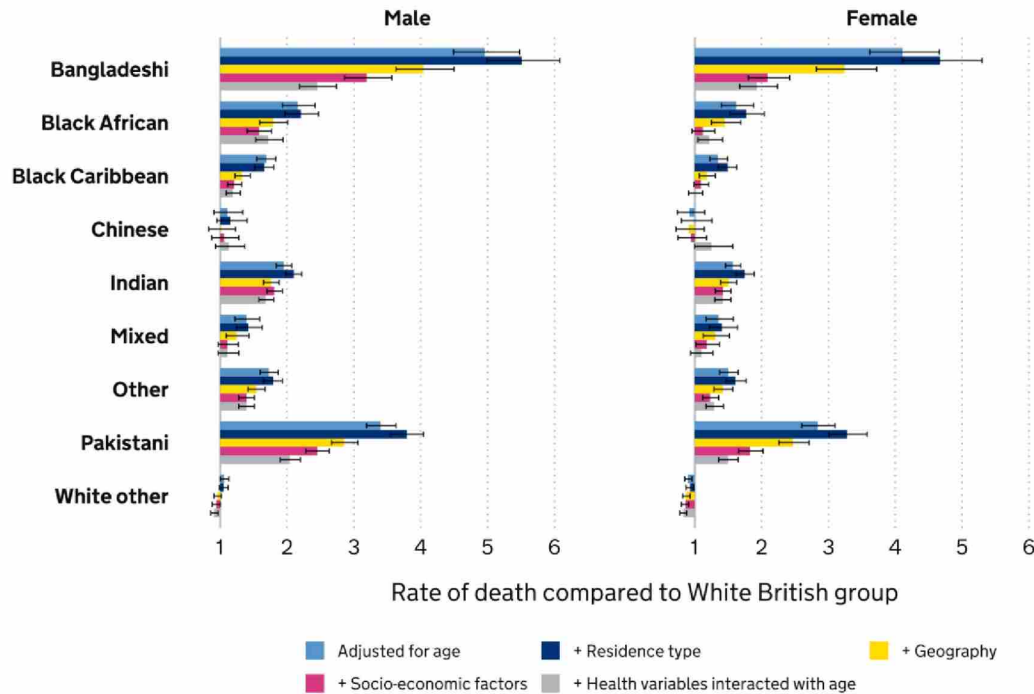
¹¹⁶ Differences between the hazard ratios reported in this report and in the third quarterly report for wave one are largely attributable to this change to the study population. Care home residents are predominantly White British, so introducing deaths from this setting to the study has the effect of reducing hazard ratios for ethnic minority groups. For wave 2, the differences are primarily driven by the change to the time period

Figure 2a: Risk of death involving COVID-19 compared with White British people, expressed as hazard ratios, by ethnicity and sex during the first wave of the pandemic (24 January to 11 September 2020)



Source: Office for National Statistics

Figure 2b: Risk of death involving COVID-19 compared with White British people, expressed as hazard ratios, by ethnicity and sex during the second wave of the pandemic (12 September 2020 to 31 March 2021)



Source: Office for National Statistics

The study shows that, adjusting only for age, people in the Bangladeshi and Pakistani ethnic groups had a larger excess risk of death compared with White British people in the second wave than in the first wave:

- In the first wave, men and women from the Bangladeshi group were 3.0 and 1.9 times as likely to die as their White British counterparts, compared with 5.0 and 4.1 times as likely in the second wave
- For men and women in the Pakistani ethnic group, first wave hazard ratios were 2.2 and 2.0, compared with 3.4 and 2.8 in the second wave

Adjusting for residence type, geography, socio-economic factors and pre-existing health conditions¹¹⁷ attenuated the risk but people in Pakistani and Bangladeshi ethnic groups still experienced excess risk compared with White British people:

- Second wave fully adjusted hazard ratios for men and women in the Bangladeshi ethnic group were 2.5 and 1.9, compared with 5.0 and 4.1 adjusted only for age

¹¹⁷ The details of the variables modelled for are as follows. For residence type: whether an individual lives in a private household, care home or other communal establishment. For geography: local authority district and population density. For socio-economic/household/occupation factors: index of multiple deprivation (IMD), household deprivation, household tenure, socio-economic status (NS-SEC), level of highest qualification, household size, family type, household composition, key worker type, key worker in the household, exposure to disease, proximity to others, household exposure to disease, household proximity to others. For health: number of admissions to Admitted Patient Care, number of days spent in Admitted Patient Care, BMI, chronic kidney disease, cancer and immunosuppression and a variety of other conditions

- Second wave fully adjusted hazard ratios for men and women in the Pakistani ethnic group were 2.0 and 1.5, compared with 3.4 and 2.8 adjusted only for age

In addition, after adjusting for these additional factors, men and women in the Indian ethnic group also had a larger excess risk of death in the second wave than in the first wave compared with White British people.

Adjusting only for age, compared with White British counterparts, Black African and Black Caribbean people, White Other men and men from other ethnic groups had a smaller excess risk in the second wave than in the first wave:

- In the first wave, men and women from the Black African group were 3.7 and 2.6 times as likely to die as their White British counterparts, compared with 2.2 and 1.6 times as likely in the second wave
- For Black Caribbean men and women, first wave hazard ratios were 2.7 and 1.8, compared with 1.7 and 1.4 in the second wave
- For White Other men, the first wave hazard ratio was 1.3, compared with 1.1 in the second wave
- For men from other ethnic groups, the first wave hazard ratio was 2.1, compared with 1.7 in the second wave

After adjusting for residence type, geography, socio-economic factors and pre-existing health conditions:

- Second wave fully adjusted hazard ratios for Black African men and women were 1.7 and 1.2, compared with 2.2 and 1.6 adjusted only for age
- Second wave fully adjusted hazard ratios for Black Caribbean men and women were 1.2 and 1.0, compared with 1.7 and 1.4 adjusted only for age
- The second wave fully adjusted hazard ratio for White Other men was 0.9, compared with 1.1 adjusted only for age
- The second wave fully adjusted hazard ratio for men from other ethnic groups was 1.4, compared with 1.7 adjusted only for age

After adjusting for these additional factors, the data suggests that compared with White British counterparts, only Black African men had a significantly smaller excess risk in the second wave than in the first wave. Black Caribbean people and Black African women had similar excess risk compared with White British counterparts in the second and first wave.

ONS analysis of hazard ratios shows that adjusting for geographic variables (local authority district and population density) brings the largest reduction in excess risk for ethnic minority groups compared with adjusting for other groups of variables.

Table 1a: Hazard ratios of death involving COVID-19 for men, by ethnic group and pandemic wave

Men	Age		+Residence type		+Geography		+Socio-economics/household/occupation		+Health	
	Wave 1	Wave 2	Wave 1	Wave 2	Wave 1	Wave 2	Wave 1	Wave 2	Wave 1	Wave 2
Ethnic group										
Bangladeshi	3.00	4.96	3.48	5.51	2.14	4.04	1.66	3.19	1.29	2.45
Black African	3.70	2.16	3.91	2.21	2.35	1.79	2.05	1.58	2.24	1.72
Black Caribbean	2.66	1.69	2.62	1.66	1.59	1.33	1.46	1.21	1.40	1.19
Chinese	1.39	1.11	1.49	1.15	1.08	1.01	1.12	1.06	1.20	1.13
Indian	1.85	1.95	2.05	2.10	1.38	1.76	1.42	1.81	1.34	1.68
Mixed	1.58	1.39	1.64	1.42	1.23	1.25	1.10	1.11	1.12	1.11
Other	2.11	1.73	2.26	1.79	1.54	1.54	1.38	1.39	1.39	1.39
Pakistani	2.21	3.40	2.57	3.79	1.70	2.85	1.46	2.45	1.22	2.04
White other	1.31	1.06	1.30	1.05	1.01	0.96	0.99	0.94	0.95	0.91

Table 1b: Hazard ratios of death involving COVID-19 for women, by ethnic group and pandemic wave

Women	Age		+Residence type		+Geography		+Socio-economics/household/occupation		+Health	
	Wave 1	Wave 2	Wave 1	Wave 2	Wave 1	Wave 2	Wave 1	Wave 2	Wave 1	Wave 2
Ethnic group										
Bangladeshi	1.93	4.11	2.27	4.67	1.35	3.24	0.86	2.09	0.82	1.93
Black African	2.61	1.62	2.93	1.77	1.80	1.45	1.36	1.12	1.52	1.22
Black Caribbean	1.81	1.35	2.03	1.49	1.21	1.18	1.11	1.09	1.04	1.01
Chinese	1.20	0.92	1.34	1.00	1.03	0.91	1.05	0.94	1.38	1.25
Indian	1.62	1.57	1.85	1.75	1.24	1.51	1.15	1.42	1.16	1.42
Mixed	1.52	1.36	1.60	1.41	1.27	1.31	1.14	1.18	1.08	1.10
Other	1.71	1.50	1.89	1.61	1.32	1.42	1.12	1.23	1.17	1.29
Pakistani	2.01	2.84	2.43	3.28	1.64	2.47	1.22	1.83	1.02	1.50
White other	1.03	0.90	1.07	0.93	0.86	0.87	0.85	0.86	0.82	0.83

Annualised age-adjusted mortality rates

PHE have analysed¹¹⁸ the deaths of individuals who had a laboratory-confirmed positive COVID-19 test¹¹⁹ between 31 July 2020 and 31 July 2021, and have calculated mortality rates per 100,000 of the population for each broad ethnic group¹²⁰. These mortality rates

¹¹⁸ <https://www.gov.uk/government/publications/covid-19-reported-sars-cov-2-deaths-in-england/covid-19-confirmed-deaths-in-england-to-31-july-2021-report#ethnicity>

¹¹⁹ Individuals were included if they died within 60 days of the positive test or if they died more than 60 days after the positive test and COVID-19 was mentioned on the death certificate. This data does not report cause of death, and as such represents all deaths in people with laboratory-confirmed COVID-19, not just those caused by COVID-19.

¹²⁰ ONS have conducted similar analysis, with the first wave being considered from 24 January 2020 to 11 September 2020 and the second wave being considered from 12 September 2020 to 31 March 2021:

<https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/articles/updatingethniccontrastsindeathsinvolvingthecoronaviruscovid19englandandwales/24january2020to31march2021>

have subsequently been age-standardised, to account for differences in the age structures of ethnic groups, and annualised, to account for differences in the size of time periods studied and to therefore allow comparisons between time periods¹²¹.

The annualised age-adjusted mortality rate (AAAMR) was highest for the Asian ethnic group, at 354.6 per 100,000 of the population per year (based on 6,644 deaths), followed by the black group (284.6 per 100,000 of the population per year, based on 2,478 deaths) and the other¹²² group (220.8 per 100,000 of the population per year, based on 468 deaths). The AAAMRs for these groups were significantly different to one another and significantly higher than the AAAMRs for the white (159.5, based on 80,461 deaths) and mixed (158.6, based on 432 deaths) groups, who had similar rates.

Table 2: Number of deaths and age-adjusted annualised mortality rate (AAAMR) per 100,000 population in laboratory-confirmed cases of COVID-19, by ethnicity (PHE table)

Ethnic category ***	Deaths (31 July 2020 to 31 July 2021)	Age-adjusted mortality rate** (95% CI) (31 July 2020 to 31 July 2021)
White / White British	80,461	159.5 (158.4-160.7)
Black / Black British	2,478	284.6 (272.8-296.7)
Asian / Asian British	6,644	354.6 (345.7-363.7)
Mixed	432	158.6 (142.8-175.4)
Other±	468	220.8 (199.5-243.5)
Unknown	1,782	-

** Rates are annualised and expressed as the number of deaths per 100,000 population per year

*** Ethnic categories are based on ONS classifications¹²³

¹²¹ Starting in the 6 July report, ethnicity data has been updated by PHE using a new method for assigning ethnicity. The new method has resulted in a reduction in the number of cases allocated to the 'other' ethnic group and a slight increase in the percentage allocated to all other ethnic groups. Ethnicity data from the July report onwards are therefore not directly comparable to previous reports.

¹²² The rates for the other ethnic group are likely to be an overestimate due to the difference in the method of allocating ethnicity codes to the deaths data and the population data used to calculate the rates. This could have had a knock-on effect on the rates for other groups. From 6 July 2021, ethnicity data has been updated based on a new method for assigning ethnicity developed by PHE which has resulted in a decrease in deaths in the 'other ethnicity' category. This month's ethnicity data is not comparable to previous months.

¹²³

<https://www.ons.gov.uk/methodology/classificationsandstandards/measuringequality/ethnicgroupnationalidentityandreligion>

Source: Public Health England

Cumulative age-adjusted mortality rates

PHE have published cumulative mortality rates for deaths involving COVID-19 by ethnic group on the CHIME platform¹²⁴. This data shows that cumulative ASMRs are higher in every ethnic minority group than they are in the white group (231.3) – ASMRs are highest in Black Other (926.9), Pakistani (736) and Bangladeshi (716.3) populations.

Table 3: Cumulative age-standardised mortality rate for deaths involving COVID-19 in England, by ethnicity (March 2020 to August 2021)

Ethnic group	Deaths (March 2020 to August 2021)	Age-standardised mortality rate (March 2020 to August 2021)	Lower CI	Upper CI
White	117920	231.3	229.9	232.6
Pakistani	2831	736	705.7	767.1
Bangladeshi	1039	716.3	668	766.9
Chinese	379	267.3	239.1	297.8
Indian	3524	399.4	385.7	413.4
Asian Other	1895	544.6	516.4	573.7
Black African	1427	493.7	461.3	527.5
Black Caribbean	2278	408.2	390.7	426.1
Black Other	753	926.9	849.1	1009.1
Mixed or multiple ethnic groups	721	267.4	246.9	289.1
Any other ethnic group	694	286.3	263.3	310.7

Source: Public Health England

Age-adjusted case rates

¹²⁴ <https://analytics.phe.gov.uk/apps/chime/>

ONS analysis shows that case rates in the second wave (1 September 2020 to 22 May 2021) were highest in the Bangladeshi and Pakistani ethnic groups, at 390.6 and 378.1 cases per 100,000 person-weeks respectively, while case rates from the third wave to date¹²⁵ (23 May to 25 July 2021) were highest in White British people at 234.7 cases per 100,000 person-weeks¹²⁶. Most ethnic groups have a lower case rate in the third wave to date, compared with the second wave – this is very pronounced in the Bangladeshi, Pakistani and Indian groups. However, the case rate is notably higher in the third wave than in the second in the mixed and White British ethnic groups¹²⁷.

Table 4: Age-adjusted COVID-19 case rate per 100,000 person-weeks in England, by ethnicity and time period (wave 2 and early wave 3)

Ethnic group	Wave 2 (1 September 2020 to 22 May 2021)				Wave 3 (23 May 2021 to 25 July 2021)			
	Number of cases	Rate	Lower CI	Upper CI	Number of cases	Rate	Lower CI	Upper CI
Bangladeshi	44,428	390.6	386	395.2	4,963	138.7	134.1	143.4
Black African	48,417	202.5	200.3	204.7	9,650	137.2	134.2	140.2
Black Caribbean	27,950	186	183.7	188.2	5,986	170.3	165.9	174.7
Chinese	6,985	93	90.7	95.3	1,694	97.5	92.7	102.3
Indian	102,805	269.5	267.8	271.2	14,845	152.7	150.2	155.2
Mixed	56,116	184.7	182.7	186.8	22,299	208.6	205.3	211.8
Other	88,751	240.7	239	242.4	14,552	144.3	141.9	146.7
Pakistani	111,920	378.1	375.5	380.7	15,335	169	166	172
White British	1,859,074	166	165.8	166.3	613,531	234.7	234.1	235.3

¹²⁵ The third wave of the pandemic is ongoing but this analysis was conducted using data up to 25 July 2021

¹²⁶

<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/bulletins/coronaviruscovid19caseratesbysociodemographiccharacteristicsengland/1september2020to25july2021>

¹²⁷ This comparison is not like-for-like – the second wave spans Autumn-Spring and was a period with lower vaccination rates, while the third wave to date spans a summer with relatively high vaccination rates

White Other	116,091	168.1	167	169.1	24,834	158.1	156	160.2
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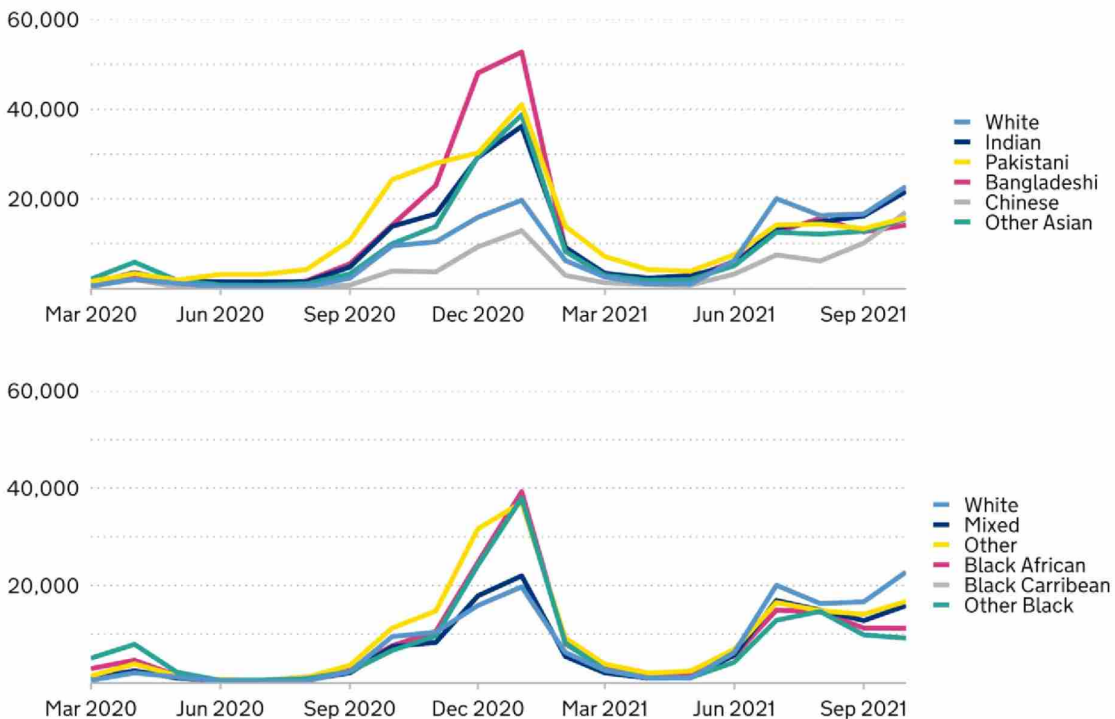
Source: Office for National Statistics

This change in trend in the third wave is corroborated by more recent age-standardised case rates from CHIME. In October 2021, the white population had the highest case rate at 22,784.8 cases per 100,000 person-years, followed by the Indian ethnic group at 21,668.8 per 100,000 person-years¹²⁸. The Pakistani and Bangladeshi ethnic groups had lower case rates at 15,804.6 and 14,179.8 per 100,000 person-years respectively. The Black Other ethnic group had the lowest case rate, at 9,200.1 per 100,000 person-years.

A similar change can be seen in case rates by deprivation decile. The most deprived deciles generally had the highest case rates during most of the pandemic to date but October 2021 data shows a clear reversal. The least deprived decile now has the highest case rate at 27,183.9 per 100,000 person-years, while the most deprived decile has the lowest case rate at 17,218.4 per 100,000 person-years.

The cause for this change in trend is as yet unclear but it comes after prolonged periods of high infection and antibody development in some communities, and at a time with greater opportunity for international travel among the affluent.

Figure 3: Monthly age-standardised confirmed COVID-19 case rate per 100,000 person-years in England, by ethnic group (March 2020 to October 2021)



Source: Public Health England

¹²⁸ <https://analytics.phe.gov.uk/apps/chime/>

Excess deaths

The number of excess deaths over a given period of time refers to the number of deaths which have occurred in addition to the deaths expected for that time of year, as determined by mortality rates from earlier years. The metric gives a broader sense of the impact of the pandemic, because it considers all deaths, not just those attributed directly to COVID-19. For example, it captures COVID-19 deaths which were not correctly identified and reported, as well as deaths which may have occurred indirectly as a result of strain placed on healthcare services by the pandemic. It also captures deaths of people not presenting to hospital.

PHE's analysis of excess deaths^{129,130} by ethnicity shows that, for the period between the week ending 27 March 2020 and the week ending 11 September 2020, the ratio of the number of all registered deaths to the number of expected deaths was highest for the black ethnic group, at 1.75. The ratio was similar for the other, Asian and mixed ethnic groups (1.52, 1.50, and 1.49 respectively). It was lowest for the white ethnic group, at 1.22. For the period between the week ending 18 September 2020 and the week ending 02 April 2021, the ratio was highest for the Asian ethnic group (1.60) followed by the Mixed ethnic group (1.46). The ratio for the black ethnic group was 1.43, while for the white ethnic group it was 1.13.

Research has looked at excess deaths by area-based deprivation and ethnicity among those aged under 75 years¹³¹.

- Between 21 March 2020 and 26 February 2021, there were 1.17 times as many deaths as expected for white people and 1.63 and 1.58 times as many deaths as expected for Asian and black people – the lowest and highest ratios of excess death respectively
- Among white people, there was a clear positive gradient between excess deaths and increased deprivation – that is, white ethnic groups in more deprived areas experienced higher excess death from all causes
- For people from the Asian and black ethnic groups, there were no clear gradients of excess deaths between the most and least deprived areas – that is, there is no clear link between area-based deprivation and excess deaths
- The analysis showed that there were separate associations between excess mortality and deprivation and excess mortality and ethnicity in people aged under 75 years over the period studied. This suggests that some aspect of ethnicity was a determinant of excess mortality, regardless of area-based deprivation

Analysis from ONS found that at a neighbourhood¹³² level, there were around 200 neighbourhoods where the number of deaths were at least double what would have been

¹²⁹

<https://app.powerbi.com/view?r=eyJrIjoiYmUwNmFhMjYtNGZhYS00NDk2LWFIMTAOTg0OGNhNmFiNGM0IiwidCI6ImVINGUxNDk5LTRhMzUtNGIyZS1hZDQ3LTVmM2NmOWRlODY2NiIsImMiOiJh9>

¹³⁰ The time periods referred to here have been chosen to align as closely as possible with ONS' analysis of hazard ratios. PHE's data does not go further back than week ending 27 March 2020

¹³¹ <https://www.medrxiv.org/content/10.1101/2021.05.18.21256717v1.full#T3>

¹³² officially known as middle layer super output areas or MSOAs

expected in the 5 months between March and July 2020¹³³. Between September 2020 and March 2021, West St Leonards (Hastings), Hadleigh (Babergh) and Old Oak and Wormwood (Hammersmith and Fulham) had the highest numbers of excess deaths compared with the average for the same months between 2015 and 2019 (65, 57 and 56 excess deaths above the respective averages of 119, 79 and 28).

Risk factors

The increased risk of COVID-19 mortality in men and women from black and South Asian groups compared with people from the White British group is mainly driven by an increased risk of infection.

- According to REACT-2¹³⁴ COVID-19, the odds of testing positive for antibodies were higher in black (1.6), Asian (1.7), mixed (1.2) and other (1.4) ethnic groups compared with the white population after adjusting for age and sex between 12 May and 25 May 2021. This was due to higher prior infection rates in these groups¹³⁵
- Post infection, or vaccination, developing antibodies acts as a protective factor, reducing risk of severe COVID-19 and slightly minimising transmission¹³⁶. It is for this reason that vaccinations and boosters are so important, particularly among populations at increased risk of severe COVID-19
- In the first and second waves, the reasons for higher infection rates included living in densely populated urban areas, larger and multi-generational households or working in occupations with higher exposure risk
- As well as differences in infection rates, there were some differences in survival, once infected, between ethnic groups. Analysis of deaths earlier on in the pandemic, between 20 March and 13 July 2020, suggested that once testing positive for COVID-19, Asian and black people had odds of death 1.2 and 1.1 times higher than white people after adjusting for sex, age, deprivation, pre-existing health conditions and region¹³⁷. More analysis is required to understand survival across the pandemic, due to higher infection rates and the emergence of the delta variant in the third wave

Younger *age* is a risk factor for infection and older age is the most significant risk factor for severe illness and mortality from COVID-19.

¹³³

<https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/articles/excessdeathsinyourneighbourhoodduringthecoronaviruscovid19pandemic/2021-08-03>

¹³⁴ <https://www.medrxiv.org/content/10.1101/2021.07.14.21260497v1>

¹³⁵ It is possible this includes people who had antibodies because they previously had COVID-19 and people who had antibodies because they've been vaccinated. However the evidence supports the conclusion that these ethnic groups have higher antibody prevalence as a result of prior infection due to differential uptake of vaccines and rates of prior infection across different areas and groups.

¹³⁶ <https://www.imperial.ac.uk/news/231557/covid-vaccines-effective-household-transmission-delta/>

¹³⁷ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/942091/Summary_report_ethnicity_and_comorbidity.pdf

- People aged 25 to 49 years had the highest rates of infection per 100,000, between March 2020 and September 2021 (14,837 infections per 100,000 people)
- Between 26 September and 6 November, estimated daily infections in England were highest among the youngest age groups – age 2 to school year 6 and school years 7 to 11^{138 139}
- The average age of death for people whose death involved COVID-19 in the 19 months from March 2020 to September 2021 was 80 years old^{140 141}
- 72% of deaths involving COVID-19 in the same time period were of people aged 75 years and over. It is likely that this is due to an ageing immune system¹⁴², or an increased likelihood of comorbidities at older ages¹⁴³
- In the period between 24 January 2020 and 31 March 2021, the age-standardised mortality rates for deaths involving COVID-19 were higher among those aged between 65 and 100 years than those aged between 30 and 64 years in every ethnic group¹⁴⁴ (as shown in Figure XX)
- Figure xx also shows that nearly all ethnic minority men (excluding the Chinese ethnic group but including the White Other ethnic group) had significantly higher mortality rates per 100,000 person-years¹⁴⁵ than White British men across both age groups. Among women, mortality rates were significantly higher for most ethnic minority groups than White British women in both age groups, with the exception of women in the White Other and Chinese ethnic groups, where rates were either not significantly different (women in the Chinese ethnic group, and women in the White Other ethnic group aged over 65 years) or lower than White British women (women in the White Other ethnic group aged 30 to 64 years)
- For Chinese men and women, although mortality rates were among the lowest out of all ethnic groups, relative rates per 100,000 person-years were 26 and 36 times higher (respectively) for those aged 65 and over than those aged between 30 and 64 years. These were the highest relative mortality rates between these 2 age groups for any ethnic group
- For men in the Bangladeshi ethnic group, who had the highest overall mortality rates out of all ethnic groups for both age groups, relative rates per 100,000 person-years were 13 times higher for those aged over 65 than for those aged between 30 and 64 years

138

<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/bulletins/coronaviruscovid19infectionsurvey/pilot/latest#age-analysis-of-the-number-of-people-who-had-covid-19>

¹³⁹ Based on infections in private households only

¹⁴⁰ based on analysis of monthly registered deaths

¹⁴¹

<https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/datasets/singleyearofageandaverageageofdeathofpeoplewhosedeathwasduetoorinvolvedcovid19>

¹⁴² <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3582124/>

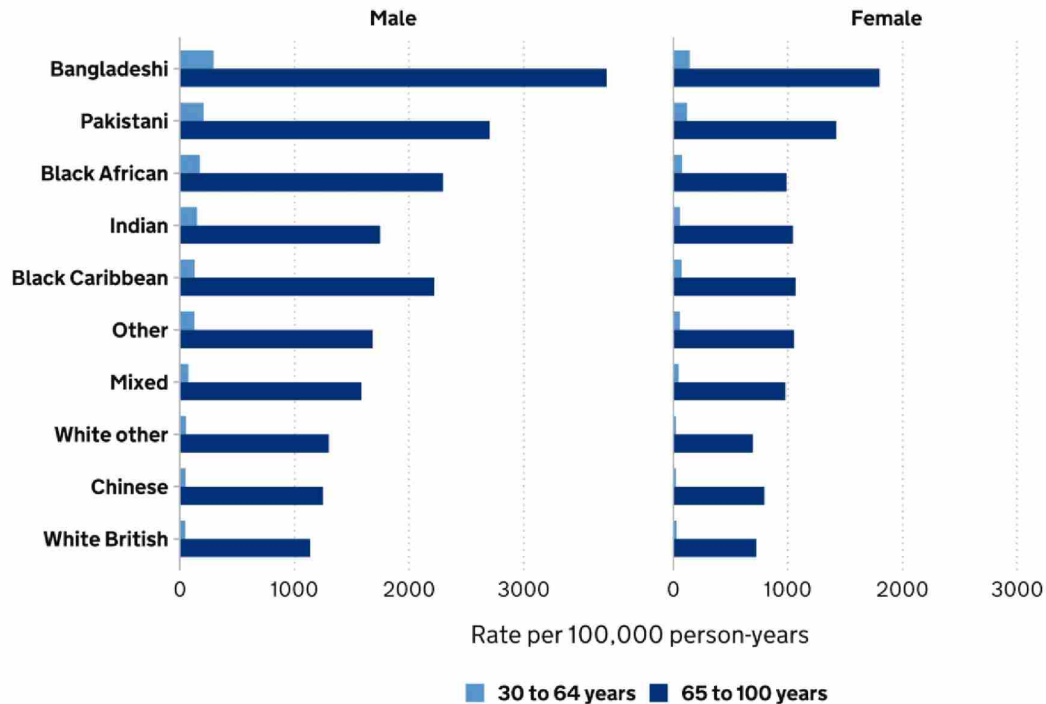
¹⁴³ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6732845>

¹⁴⁴

<https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/datasets/updatingethniccontrastsindeathsinvolvingthecoronaviruscovid19england>

¹⁴⁵ Age-standardised mortality rates (ASMRs) are calculated per 100,000 person-years at-risk and can be interpreted as mortality rates per 100,000 population per year.

Figure 4: Age-standardised mortality rates for deaths involving COVID-19 for men and women, by ethnicity and age group (24 January 2020 to 31 March 2021)



Source: Office for National Statistics

Sex has also been found to be a risk factor for mortality:

- Between March 2020 and August 2021, COVID-19 death rates for men were 1.6 times higher than for women¹⁴⁶
- Global data also indicate higher COVID-19 mortality in men than women¹⁴⁷, and it is thought that a difference in immune system response could be an important factor in explaining this^{148, 149}

South Asian ethnic groups are more likely to live in *large and multigenerational households*:

- ONS data shows that in 2018, over-70s in the Bangladeshi and Pakistani ethnic groups were much more likely to have contact with adults and school age children within the same household (56.4% and 34.7% respectively, compared with 1.5% of white adults)¹⁵⁰.

¹⁴⁶ <https://analytics.phe.gov.uk/apps/chime/>

¹⁴⁷ <https://globalhealth5050.org/the-sex-gender-and-covid-19-project/dataset/>

¹⁴⁸ <https://www.nature.com/articles/s41586-020-2700-3>

¹⁴⁹ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7498997/>

¹⁵⁰

<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/articles/whyhaveblackandsouthasianpeoplebeenhithardestbycovid19/2020-12-14>

- The average household size for people aged 70 and over was 1.7 people in 2018¹⁵¹. 27.1% of people aged 70 in the Pakistani ethnic group and 26.8% of those in the Bangladeshi ethnic group lived in households that contained other people aged 70 and over only, the least likely compared with all other ethnic groups¹⁵²
- CoMix reported that, in England, there were larger increases in the R rate (reproduction rate) when schools were opened (4 September to 24 October 2020)¹⁵³. Over-70s in the Pakistani and Bangladeshi ethnic groups will be disproportionately impacted by this increased source of transmission
- In the first wave (1 February to 31 August 2020), there was no association between living with children and COVID-19 outcomes in all people aged over 65, but in the second wave (defined here as 1 September to 18 December 2020) there was an associated increased risk of infection (adjusted hazard ratio of 1.3), ICU admission (1.9) and COVID-19 mortality (1.4) for adults aged over 65 living with children^{154, 155} likely related to schools being opened in the second wave (until end December 2020)
- Analysis of household composition¹⁵⁶ found that during the second wave of the pandemic (between 1 September 2020 and 31 January 2021) living with younger generations was associated with an increased risk of severe COVID-19 outcomes for people aged 67 years and older in South Asian ethnic groups¹⁵⁷. In contrast, in both the first and second wave, living with younger generations was associated with a lower risk of severe COVID-19 outcomes for people aged over 67 years in the white ethnic group
- OpenSAFELY data¹⁵⁸ indicates that a larger proportion of South Asian people aged 67 years and older lived in households with 1 or more other generations than white people aged 67 years and older (69% compared with 31%). Within the South Asian groups, higher percentages of people aged 67 years and older in Pakistani and Bangladeshi ethnic groups (82% and 84%) lived with one or more generations than people in the Indian ethnic group (66%)
- Data from the ONS COVID-19 Infection Survey¹⁵⁹ from 11 October to 7 November 2020 shows a positive association between household size and COVID-19 infection – as household size increased, COVID-19 positivity increased. This association was stronger for ethnic minority people (excluding white minorities) than for white people. At this time schools were open

¹⁵¹

<https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/families/adhocs/12005householdsbyagecompositionandethnicityuk2018>

¹⁵² Due to sample sizes, the Chinese ethnic group is included in 'Any Other Asian Background' and Mixed/Multiple ethnic groups are included in 'other ethnic group'

¹⁵³

<https://cmmid.github.io/topics/covid19/reports/comix/Comix%20Survey%20Contact%20matrices%20-%20Week%2056.pdf>

¹⁵⁴ <https://www.bmj.com/content/bmj/suppl/2021/03/18/bmj.n628.DC1/forh062967.ww1.pdf> [Figure A4]

¹⁵⁵ <https://www.bmj.com/content/372/bmj.n628>

¹⁵⁶ <https://www.bmj.com/content/372/bmj.n628>

¹⁵⁷ Findings indicate an association only and differences between ethnic groups and cohorts living with different numbers of generations are not all significant

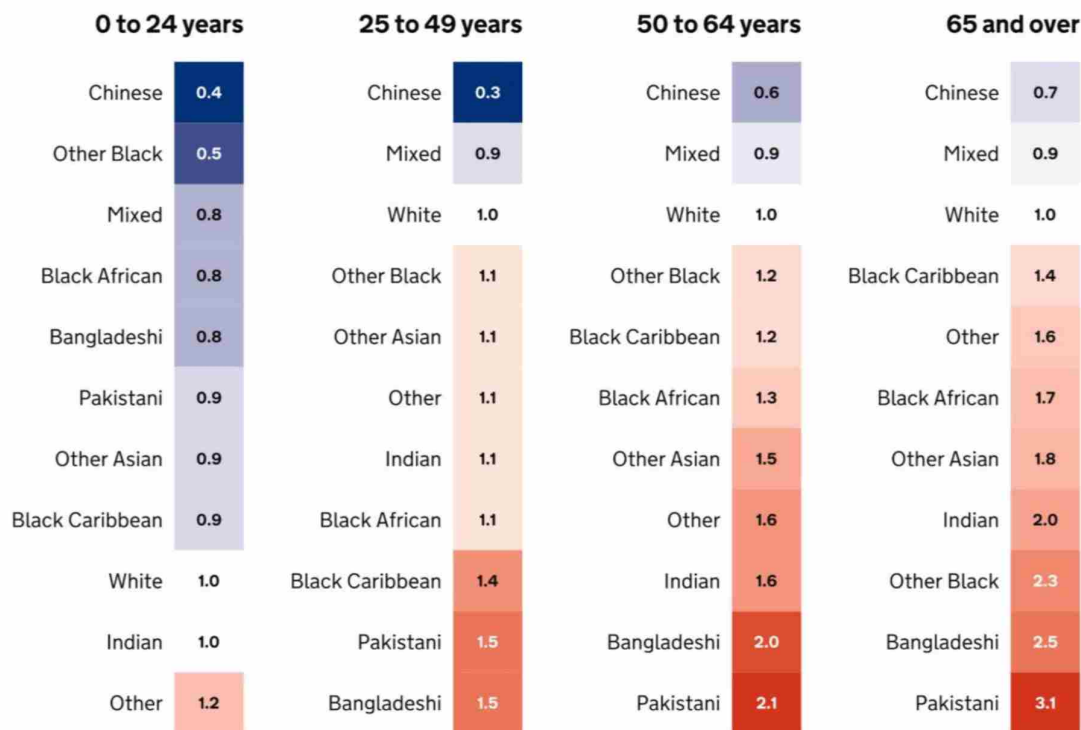
¹⁵⁸ <https://www.bmj.com/content/372/bmj.n628>

¹⁵⁹ <https://www.medrxiv.org/content/10.1101/2021.09.02.21263017v1>

- The data also shows that between 31 January and 27 February 2021, for white people, living in a multigenerational household was associated with a lower likelihood of testing positive for COVID-19 compared with not living in a multigenerational household. However, among ethnic minority people (excluding white minorities), living in a multigenerational household was associated with a higher likelihood of testing positive compared with not living in a multigenerational household, although this difference was not statistically significant. At this time schools were closed
- PHE analysis of cumulative COVID-19 case rates from March 2020 to October 2021¹⁶⁰ showed that as age increases from 0 to 24 years, to 65 years and over, the risk of COVID-19 infection for most ethnic minority groups relative to the risk experienced by the white ethnic group increases:
 - among those aged 0 to 24, people in the Pakistani and Bangladeshi ethnic groups were 0.9 and 0.8 times as likely to become infected as white people
 - among those aged 25 to 49, people in the Pakistani and Bangladeshi ethnic groups were 1.5 times as likely to become infected as white people
 - among those aged 50 to 64, people in the Pakistani and Bangladeshi ethnic groups were 2.1 and 2.0 times as likely to become infected as white people
 - among those aged 65 and over, people in the Pakistani and Bangladeshi ethnic groups were 3.1 and 2.5 times as likely to become infected as white people
- As people aged 65 years and over are generally above the working age, the higher relative rate of infection among this age group is more likely to be explained by household transmission. Living in larger, multigenerational households may explain why this relative risk was highest among over-65s in the Pakistani and Bangladeshi ethnic groups.

Figure 5. Cumulative age-standardised COVID-19 case rates per 100,000 people in England, expressed as a relative rate compared with the white ethnic group, by ethnicity and age group (March 2020 to October 2021)

¹⁶⁰ <https://analytics.phe.gov.uk/apps/chime/>



Source: Public Health England

- However, there are also significant positive impacts of living in a multi-generational household as well as disadvantages of living on your own. According to academic research, multigenerational households among ethnic minorities in the UK were associated with lowest levels of loneliness and greatest quality of life¹⁶¹. Elderly relatives often assume child care arrangements, which can be vital for working parents on lower incomes^{162,163}
- In contrast, research shows that living alone can be associated with common mental health disorders such as depression¹⁶⁴
- Ethnic minority groups have higher life expectancies. In the 3 years to March 2014, women from Black African, Bangladeshi and Asian Other ethnic groups had the highest life expectancies (88.9, 87.3 and 86.9 years). The highest life expectancies among men were in the Asian Other, other and Black African groups (84.5, 84.0 and 83.8 years)¹⁶⁵. In the Bangladeshi ethnic group, men had life expectancies 6.2 years lower than women – the largest gap between men and women in any ethnic group

¹⁶¹ <https://www.cambridge.org/core/journals/ageing-and-society/article/social-support-networks-of-older-migrants-in-england-and-wales-the-role-of-collectivist-culture/9330B872CFF1834F453BCA97996E32C7>

¹⁶² <https://www.tandfonline.com/doi/full/10.1080/13545701.2020.1860246>

¹⁶³ <https://www.sciencedirect.com/science/article/abs/pii/S0277953616305196>

¹⁶⁴ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6493731/pdf/pone.0215182.pdf>

¹⁶⁵

<https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/lifeexpectancies/articles/ethnicdifferencesinlifeexpectancyandmortalityfromselectedcausesinenglandandwales/2011to2014#ethnic-breakdown>

Geographic factors have been identified as risk factors:

- As mentioned earlier, analysis from ONS¹⁶⁶ suggested that *living in areas of high population density* and *local authority district* (that is, the area where someone lives) explain the largest part of the disparities in COVID-19 mortality experienced by ethnic minorities
- Areas with *high population density*, such as major urban conurbations (the most built-up areas), had the highest COVID-19 death rates¹⁶⁷. From March 2020 to May 2021, the cumulative age standardised death rate was 2.4 times as high in the most densely populated areas in England than the least populated areas (359.2 deaths per 100,000 people in the most densely populated compared with 152.8 deaths per 100,000 in the least populated)¹⁶⁸
- These are the type of areas that ethnic minority people were most likely to live in. In 2011 in England and Wales, 76.0% of black people, 69.6% of people in the Other ethnic group, 63.9% of Asian people and 53.9% of people in mixed ethnic groups lived in major urban conurbations¹⁶⁹. This compares to 28.3% of white people. People from Asian ethnic groups made up the second largest percentage of the population of England and Wales (at 7.5%), followed by black ethnic groups (at 3.3%) and mixed or multiple ethnic groups (at 2.2%)¹⁷⁰
- People from ethnic minorities were also more likely to be living in places of enduring COVID-19 prevalence. Enduring prevalence is a term used to describe a repeating pattern of early increasing prevalence of COVID-19 at a local authority level and a slower decline in prevalence than the surrounding local authorities¹⁷¹. The particular factors that contribute to enduring prevalence are complicated and vary by area, although there seems to be a strong link with deprivation. Living in an area where there are more infected people, for longer, may create greater capacity to become infected
- For example, Bradford, in which 20% of the population is from the Pakistani ethnic group¹⁷², had one of the highest number of days spent in the epidemic phase¹⁷³. Other local authorities with enduring prevalence also have a notable percentage of Asian people living in them, such as Peterborough, Kirklees, Rochdale, Leicester, Blackburn with Darwen, Luton and Oldham

¹⁶⁶

<https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/adhocs/13485modelestimatesofdeathsinvolvingcovid19byethnicgroupandsexforthoseaged30to100yearsofageinthefirstandsecondwavesofthepandemicengland24january2020to31march2021>

¹⁶⁷ <https://analytics.phe.gov.uk/apps/chime/>

¹⁶⁸ Based on deaths involving COVID-19, and population estimates from 2019

¹⁶⁹

https://www.nomisweb.co.uk/census/2011/QS201EW/view/2092957703?rows=c_ethnicid&cols=rural_urban

¹⁷⁰ <https://www.ethnicity-facts-figures.service.gov.uk/uk-population-by-ethnicity/national-and-regional-populations/population-of-england-and-wales/latest>

¹⁷¹ <https://www.gov.uk/government/publications/spi-m-spatial-variation-subgroup-defining-enduring-prevalence-21-april-2021>

¹⁷² <https://www.ethnicity-facts-figures.service.gov.uk/uk-population-by-ethnicity/national-and-regional-populations/regional-ethnic-diversity/latest>

¹⁷³ The epidemic phase is characterised by a greater mean number of daily cases, higher variability, and a stronger correlation between case numbers across consecutive days.

- Between March and July 2020, COVID-19 mortality rates were 1.7 times higher in neighbourhoods with worse overall air quality than areas with better air quality¹⁷⁴, after accounting for socio-demographic factors, although some pollutants might be acting as proxies for increasingly urban areas. Poor air quality was also strongly associated with the ethnic diversity of an area – this analysis shows that on average, areas with less diverse ethnic minority populations¹⁷⁵ had worse air quality

Additionally, *deprivation* was associated with both COVID-19 infection¹⁷⁶ and risk of mortality¹⁷⁷:

- Analysis from ONS¹⁷⁸ shows that between 1 January and 31 December 2020, among those living in the most deprived areas, the age-adjusted mortality rates (AAMRs) for the Pakistani (456.3), Bangladeshi (420.4), Indian (324.0), Black African (307.3), Black Caribbean (304.1) and other (292.9) ethnic groups were significantly higher than the AAMR for the White British (238.5) ethnic group^{179,180,181}
- Among those living in the least deprived areas, the disparities were similar – the AAMRs for the Bangladeshi (333.1)¹⁸², Black African (237.7), Pakistani (207.9), Black Caribbean (207.6) and Indian (145.2) ethnic groups were significantly higher than the AAMR for the White British (104.6) ethnic group
- For the White British ethnic group¹⁸³, AAMRs were significantly different between deprivation quintiles – the more deprived the area, the higher the AAMR (from least to most deprived: 104.6, 117.6, 130.4, 171.7 and 238.5)
- Asian populations are over-represented in deprived areas in England, with 15.7% of Asian people living in the most deprived 10% of neighbourhoods.¹⁸⁴ This is more evident in certain Asian populations – 31.1% of people in the Pakistani ethnic group and 19.3% of people in the Bangladeshi ethnic group live in the most deprived 10% of neighbourhoods. According to analysis presented in the third quarterly report, the

¹⁷⁴ <https://www.mdpi.com/2571-8800/4/2/11/htm>

¹⁷⁵ Segregation measured by the Lieberson isolation index, which measures the probability that an ethnic minority person meets another ethnic minority person at random within an area

¹⁷⁶ <https://www.gov.uk/government/publications/react-2-study-of-coronavirus-antibodies-june-2020-results/react-2-real-time-assessment-of-community-transmission-prevalence-of-coronavirus-covid-19-antibodies-in-june-2020>

¹⁷⁷ <https://www.nature.com/articles/s41586-020-2521-4>

¹⁷⁸

<https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/adhocs/13360provisionalagestandardisedmortalityratesforallcausemortalitydeathsduetocovid19anddeathsduetoothercasesbyethnicgroupsexandindexofmultipledeprivationimdquintileengland1january2020to31december2020>

¹⁷⁹ for COVID-19 deaths that occurred between 1 January 2020 and 31 December 2020 in people aged 10 to 100 years

¹⁸⁰ Deprivation is measured according to the Index of Multiple Deprivation (IMD) quintiles. Only those death records were included where the individual could be linked to the 2011 Census and General Practice Extraction Service Data for Pandemic and Planning Research.

¹⁸¹ Because the time period chosen for the study is exactly one year, there is no need for the rates to be annualised

¹⁸² The figure for the Bangladeshi ethnic group is based on only 18 deaths, which could affect the reliability of the result

¹⁸³ Comparisons of this kind for other ethnic groups are not possible because of large overlaps in confidence intervals

¹⁸⁴ <https://www.ethnicity-facts-figures.service.gov.uk/uk-population-by-ethnicity/demographics/people-living-in-deprived-neighbourhoods/latest#overall-most-deprived-10-of-neighbourhoods-by-ethnicity>

variance in mortality rate by deprivation appeared greater during 'peaks' of the first and second waves¹⁸⁵

- Looking at different aspects of deprivation and ethnicity¹⁸⁶, an area's ethnic minority population and health deprivation¹⁸⁷ had significant impacts on COVID-19 mortality between March and July 2020. Lower income appeared to have little effect on COVID-19 mortality when separated from health deprivation

Occupation is known to be a risk factor for infection:

- VirusWatch research shows that certain occupations, such as healthcare workers, indoor trade or transport and mobile machine workers, had at least twice the total odds of seropositivity (presence of antibodies) compared with people employed in other occupations¹⁸⁸
- In December 2020, research using UK BioBank data and PHE infections data from March to June 2020 found that, after adjusting for age, sex, ethnicity, country of birth, deprivation, education level, shift work, manual work, job tenure, working hours, chronic conditions, long-standing illness or disability, BMI, smoking status and alcohol consumption, healthcare workers and social and education workers¹⁸⁹ had increased odds of getting severe COVID-19^{190, 191} compared with people who were not essential workers (7.7 and 1.9 times as likely, respectively). Ethnic minority essential workers, ethnic minority non-essential workers and white essential workers were more at risk of severe COVID-19 than white non-essential workers (6.2, 3.0 and 3.0 times respectively)
- In April 2021, analysis of UK BioBank data and PHE infections data from March to August 2020 found again that there were significant differences in the odds of getting severe COVID-19 for healthcare workers compared with people who weren't¹⁹². White and South Asian health workers were more likely (2.0 and 6.0 times respectively) than white and South Asian people who are not health workers to get severe COVID-19¹⁹³

¹⁸⁵ <https://www.gov.uk/government/publications/third-quarterly-report-on-progress-to-address-covid-19-health-inequalities/third-quarterly-report-on-progress-to-address-covid-19-health-inequalities#data-and-evidence>

¹⁸⁶ <https://www.mdpi.com/2571-8800/4/2/11/htm>

¹⁸⁷ using the Health Deprivation and Disability (HDD) domain which includes a measure of years of life lost through premature mortality, a measure of work-limiting morbidity and disability, a measure of emergency hospitalizations, and a measure of mood disorders

¹⁸⁸ <https://www.medrxiv.org/content/10.1101/2021.05.13.21257161v1>

¹⁸⁹ Characteristics of participants, including health worker and shift worker status, were measured between 2006 and 2010 and may have changed by the time of the study period

¹⁹⁰ <https://oem.bmj.com/content/78/5/307>

¹⁹¹ Based on infections between 16 March and 26 July 2020

¹⁹² <https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-021-10839-0>

¹⁹³ Based on people who were 'health workers only' and not 'health workers and shift workers'.

Characteristics of participants, including health worker status, were measured between 2006 and 2010 and may have changed by the time of the study period (March to August 2020)

- Shift working was also found to be a risk factor for infection^{194 195}. People who worked shifts were found to be over 4 times as likely to contract COVID-19 as those who didn't work shifts¹⁹⁶

Disabled people in England have had a markedly increased risk of mortality involving COVID-19 compared with non-disabled people^{197 198}:

- Disability was identified as a risk factor in the second quarterly report using data referring to a period of 2020 – this analysis has been updated to include the first and second wave, up to February 2021
- Between 24 January 2020 and 28 February 2021, 'more-disabled' and 'less disabled'¹⁹⁹ men had mortality rates 3.1 and 1.9 times higher than non-disabled men²⁰⁰
- 'More-disabled' and 'less disabled' women had rates 3.5 and 2.0 higher than non-disabled women
- There are some explanations available for the association between disability and COVID-19 mortality. Disabled people are on average older, more likely to become infected as a result of contact in care homes or with carers^{201 202}, more likely to experience other known risk factors such as diabetes²⁰³, more likely to live in socioeconomically disadvantaged conditions or areas²⁰⁴ and more likely to experience barriers in accessing care^{205 206}
- Whilst including other risks such as pre-existing health conditions in the analysis did reduce the excess mortality rates for disabled people, some excess risk remains unexplained

¹⁹⁴ <https://thorax.bmj.com/content/thoraxjnl/early/2021/03/30/thoraxjnl-2020-216651.full.pdf>

¹⁹⁵ The adverse health effects of shift working have become increasingly recognised – shift working has previously been associated with other (non-COVID) infectious diseases, respiratory disease, cancer and diabetes. The causes for this are not certain but sleep disruption, poor diet and circadian misalignment have been cited as possibly accounting for some of the effects.

¹⁹⁶ Based on analysis of people who were employed in shift work in 2017 and Model 3 of the source analysis which controls for the following variables: age, sex, ethnicity, Townsend Deprivation Index, sleep duration, smoking history, alcohol history, body mass index (BMI), hypertension, diabetes, cardiovascular disease, renal failure, liver disease, asthma, chronic obstructive pulmonary disease (COPD) and chronotype

¹⁹⁷ Based on self-reported disability status collected in the 2011 Census

¹⁹⁸ <https://www.medrxiv.org/content/10.1101/2021.06.10.21258693v1>

¹⁹⁹ In the 2011 Census, people are counted as disabled if they said their daily activities were limited a little ("less-disabled") or limited a lot ("more-disabled") by a health problem or disability lasting or expected to last at least 12 months.

²⁰⁰ Based on age-adjusted hazard ratios

²⁰¹ https://ltccovid.org/wp-content/uploads/2021/02/LTC_COVID_19_international_report_January-1-February-1-2.pdf

²⁰² Between 20 March 2020 and 15 January 2021, care home residents accounted for 33% of all COVID-19 deaths in England

²⁰³ <https://www.medrxiv.org/content/10.1101/2021.06.10.21258693v1>

²⁰⁴ <https://pubmed.ncbi.nlm.nih.gov/30753498/>

²⁰⁵ <https://pubmed.ncbi.nlm.nih.gov/32816541/>

²⁰⁶ Based on research from the United States

- As at the Census 2011²⁰⁷, 9.0% of white people, 6.0% of people in other ethnic groups, 5.5% of black people, 5.4% of Asian people, 4.4% of people in Mixed ethnic groups in England and Wales were living with a long term health condition or disability that 'limited day-to-day activities a lot'. Gypsy or Irish Traveller (14.4%), White Irish (13.7%), White British (9.3%) and Black Caribbean (9.0%) people had particularly high proportions of people whose day-to-day activities were 'limited a lot'
- Between 21 March and 5 June 2021, data from the Learning Disabilities Mortality Review (LeDeR) suggests that the proportions of COVID-19 deaths among people with learning disabilities for Asian (6.5%) and black (3.3%) people with learning disabilities were around 3 times higher than the proportions of average deaths in 2018 and 2019 (2.1% and 1.3% respectively)^{208 209}
- Proportions of deaths from COVID-19 among people with learning disabilities were also higher for Asian and black people than for deaths from all other causes in the same time period (4.4% and 2.7% respectively)

Some *pre-existing health conditions* are known to impact COVID-19 mortality:

- PHE analysed infections and deaths in England between 21 March and 17 July 2020²¹⁰ among people who also had conditions such as diabetes, hypertension, chronic kidney conditions, cardiovascular conditions, respiratory conditions and dementia. Among people with any pre-existing health conditions, the age-standardised mortality rates were higher for all ethnic minority groups compared with the overall death rate for all people with the same conditions^{211 212}. This analysis only controls for age so it is likely the mortality rates would be lower if also adjusted by other factors
- In the second quarter of 2020²¹³ (during the first wave of infection and deaths in the UK), COVID-19 age and sex standardised mortality ratios increased among people living with mental health disorders in London, when compared with London's population (3.8 for people with dementia, 3.3 for people with schizophrenia-spectrum disorders, 4.8 for eating disorders, 5.0 for pervasive developmental disorders, 9.2 for people with learning disabilities and 4.6 for personality disorders). However by the last quarter of 2020²¹⁴ mortality ratios were no longer elevated across most

²⁰⁷

<https://www.nomisweb.co.uk/query/construct/summary.asp?reset=yes&mode=construct&dataset=740&version=0&anal=1&initset=>

²⁰⁸ <https://www.gov.uk/government/publications/covid-19-deaths-of-people-with-learning-disabilities>

²⁰⁹ Using unadjusted numbers for adults only from the Learning Disabilities Mortality Review (LeDeR). COVID-19 deaths include both suspected and confirmed deaths from COVID-19. There is no mandatory requirement to report the deaths of people with learning disabilities to the review, therefore the total number of deaths is significantly lower than other datasets.

²¹⁰

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/942091/Summary_report_ethnicity_and_comorbidity.pdf

²¹¹ Analysis of deaths between 21 March and 17 July 2020 – mortality rates were higher among ethnic minority people with all pre-existing health conditions other than dementia

²¹²

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/942091/Summary_report_ethnicity_and_comorbidity.pdf

²¹³ 28 March to 26 June 2020

²¹⁴ 26 September to 25 December 2020

psychiatric diagnoses except for dementia, where an increased risk of COVID-19 mortality remained (1.5)²¹⁵

- Sickle cell disease and trait were observed to be associated with increased risks of severe COVID-19. Sickle cell disease was associated with a 4.1-fold increased risk of COVID-19 hospitalisation, and a 2.6-fold increased risk of dying due to COVID-19, adjusting for age, ethnicity and sex²¹⁶. In the UK, most people who carry the sickle cell trait have an African or Caribbean family background^{217 218}

In the third quarterly report, *walking pace (a proxy measure of physical activity)* was identified as a risk factor associated with severe COVID-19 infection and COVID-19 mortality²¹⁹:

- Between November 2019 and November 2020, the percentage of physically active people in the Asian²²⁰ and black ethnic groups (49.5% and 53.3% respectively) was lower than the percentage of physically active people in the White British group (63.1%)²²¹
- For White British people, activity levels were 1.5% lower compared with the previous 12 months. For black and Asian people, activity levels were reduced by 4.5% and 4.4% respectively, suggesting that the pandemic has had an impact on physical activity levels and has widened the pre-existing inequality^{222 223}

There is some evidence to suggest that lifestyle factors such as smoking are associated with higher risk:

- Former and current smokers had higher rates of hospitalisation and death than people who had never smoked^{224 225} with current smokers experiencing risk of mortality almost 5 times higher than people who had never smoked. There was no evidence to suggest that current smoking increased risk of infection compared with those who had never smoked²²⁶

In the third quarterly report, religious identity was identified as a potential factor associated with increased risk from COVID-19.

- Between 24 January 2020 and 28 February 2021, people identifying as Muslim (men HR: 1.7, women HR: 1.3) or Hindu (men HR: 1.3, women HR: 1.2) and Jewish men (HR: 1.2) and Sikh men (HR: 1.1) had higher rates of death than Christian men and

²¹⁵ <https://www.thelancet.com/action/showPdf?pii=S2666-7762%2821%2900214-3>

²¹⁶ <https://www.acpjournals.org/doi/10.7326/M21-1375>

²¹⁷ https://wwwnc.cdc.gov/eid/article/26/10/20-2792_article

²¹⁸ <https://www.thelancet.com/action/showPdf?pii=S2352-3026%2820%2930204-0>

²¹⁹ <https://www.nature.com/articles/s41366-021-00771-z>

²²⁰ Excluding Chinese

²²¹ <https://www.sportengland.org/know-your-audience/data/active-lives/active-lives-data-tables>

²²² <https://www.sportengland.org/news/impact-coronavirus-activity-levels-revealed>

²²³ <https://www.gov.uk/government/publications/health-profile-for-england-2021>

²²⁴ <https://thorax.bmj.com/content/thoraxjnl/early/2021/09/12/thoraxjnl-2021-217080.full.pdf>

²²⁵ Model adjusted for age, sex, ethnicity, deprivation, relevant pre-existing health conditions and body mass index.

²²⁶ Using data for participants from UK Biobank that was collected between 2006 and 2010, who were still alive in January 2020 and lived in England. COVID-19 exposure and outcomes based on data up to 18 August 2020

women^{227, 228} after adjusting for location variables, measures of disadvantage, occupation, living arrangements and pre-pandemic health status. Men and women who identified as 'no religion' had lower rates of death than Christian men and women (HR for both men and women: 0.9)

- For some religious groups, there is considerable overlap with ethnic background (for example, in the 2011 Census, about 9 in 10 residents identifying with the Pakistani and Bangladeshi ethnic groups also identified as Muslim²²⁹), which makes it difficult to separate the observed association between COVID-19 mortality risk and religion from the risk associated with ethnic background
- Some research suggests that sociability should be considered as a separate factor in the context of increased COVID-19 mortality among religious groups²³⁰. Sociability in this context is defined as attending communal events such as regular group prayer or on religious celebrations or holidays. Using the number of deaths overseen by British Jewish burial societies²³¹, analysis showed that in 2020 the number of deaths among Jewish people in England was 28% higher than expected
- Researchers stated that in the past, societies with higher poverty and/or overcrowding have been associated with the spread of communicable diseases. However in the context of COVID-19 and excess mortality among Jewish people, they considered the impact of social and religious involvement on greater exposure to COVID-19 and concluded that sociability should be considered independently from the poverty or socioeconomic disadvantage often associated with ethnic minority, and migrant, communities
- It is also worth noting that places of worship were closed in the first lockdown and open in the second therefore the extent to which religious sociability was a risk factor may have changed between the time periods

Meeting or socialising with people outside of the household could also be a risk factor. ONS analysis of the Opinions and Lifestyle survey (OPN) shows that between 21 July and 15 August 2021^{232 233}:

- Higher proportions of white people socialised indoors with people who were not in their household (64%) than people from other (39%) and mixed ethnic groups (49%), black people (45%) and Asian people (53%)
- Higher proportions of white people socialised outdoors with people who were not in their household (66%) than black (45%) and Asian people (54%)²³⁴

²²⁷ People aged 30 to 100 years
²²⁸

<https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/articles/deaths-involving-covid-19-by-religious-group-england/24-january-2020-to-28-february-2021>

²²⁹ Nomis, table DC2201EW.

²³⁰ https://jpr.org.uk/documents/JPR.Did_Jews_die_disproportionately.June_2021.pdf

²³¹ Researchers estimate that the number of deaths included in analysis covered approx. 73% of all Jewish deaths in the UK

²³² Analysis is presented only for the most recent time period as changes in socialising over time broadly reflect changes to guidelines – see source data for previous time periods starting March 2021
²³³

<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandwellbeing/adhocs/13648socialisingindoorsandoutdoorsbyfivecategoryethnicitybreakdownmarchtoaugust2021>

²³⁴ Results for other ethnic groups were not significant

- Among those who met up or socialised with someone not in their household, the majority of people in each ethnic group met up or socialised with between approximately 1 and 5 other people
- Among those who met up or socialised with someone not in their household, people in other, Asian and black ethnic groups were more likely to meet in a public outdoor space such as a park (82%, 72% and 66%) than a private outdoor space such as a private garden (35%, 41% and 34%)²³⁵. The inverse is true for white people, who were more likely to meet in private outdoor spaces than public ones (56% compared with 50%)
- Between the period 31 March to 25 April 2021 and 21 July to 15 August 2021, socialising indoors and outdoors with someone from outside of the household increased for all ethnic groups²³⁶

The first and second waves of the COVID-19 pandemic has shown some of the same pattern as the flu pandemic in 2009.

- In the flu pandemic in 2009, people in the Pakistani ethnic group in England experienced death rates 3.4 times higher than white people^{237, 238}
- Between 2008 and 2018, rates of flu or flu-like illness were higher among Bangladeshi (2.1 times higher), Pakistani (1.9) and Black African (1.5) ethnic groups, compared with the White British group^{239 240}
- Research into why also found deprivation to be strongly associated with death from flu²⁴¹ and larger or multigenerational households to be associated with flu infections²⁴², which potentially went some way to explain the increased risk for ethnic minorities, in particular Asian groups

Most of the risk factors already identified explain a lot of the increased mortality risk observed for some ethnic groups, but not all of it. The remaining unexplained risk will likely be due to factors not known or not able to be included in analyses – for example, factors

²³⁵ Based on small sample sizes so results should be interpreted with caution

²³⁶ From 21 July 2021 questions regarding socialising changed to remove reference to 'support' and 'childcare' bubbles therefore estimates for 31 March to 25 April are for people that socialised outside of these bubbles as well as their household

²³⁷ Adjusted by region and sex

²³⁸ <https://www.cambridge.org/core/journals/epidemiology-and-infection/article/ethnicity-deprivation-and-mortality-due-to-2009-pandemic-influenza-ah1n1-in-england-during-the-20092010-pandemic-and-the-first-postpandemic-season/682FDBAED79924F1965ADB4D8F40A3B3>

²³⁹ https://d212y8ha88k086.cloudfront.net/manuscripts/18537/986c0c93-3af0-4da8-bbb3-b5783fd350e9_16620_-_jennifer_jennifer_v2.pdf?doi=10.12688/wellcomeopenres.16620.2&numberOfBrowsableCollections=8&numberOfBrowsableInstitutionalCollections=0&numberOfBrowsableGateways=14

²⁴⁰ https://d212y8ha88k086.cloudfront.net/manuscripts/18537/986c0c93-3af0-4da8-bbb3-b5783fd350e9_16620_-_jennifer_jennifer_v2.pdf?doi=10.12688/wellcomeopenres.16620.2&numberOfBrowsableCollections=8&numberOfBrowsableInstitutionalCollections=0&numberOfBrowsableGateways=14

²⁴¹ After adjusting for 5-year age band, sex, year, Townsend deprivation quintile and region of residence

²⁴² <https://www.cambridge.org/core/journals/epidemiology-and-infection/article/ethnicity-deprivation-and-mortality-due-to-2009-pandemic-influenza-ah1n1-in-england-during-the-20092010-pandemic-and-the-first-postpandemic-season/682FDBAED79924F1965ADB4D8F40A3B3>

²⁴² https://d212y8ha88k086.cloudfront.net/manuscripts/18537/986c0c93-3af0-4da8-bbb3-b5783fd350e9_16620_-_jennifer_jennifer_v2.pdf?doi=10.12688/wellcomeopenres.16620.2&numberOfBrowsableCollections=8&numberOfBrowsableInstitutionalCollections=0&numberOfBrowsableGateways=14

such as transport use by ethnic groups. There is also some evidence to suggest that genetic differences may play a role for some ethnic groups.

Previous quarterly reports stated that ethnicity is not considered a risk factor in and of itself. We have explored this further and considered whether ethnicity should be viewed as a risk factor in Annex E.

Long COVID

NICE has identified 3 phases post COVID-19 infection, the latter 2 of which are commonly described as long COVID:

- **Acute COVID-19:** signs and symptoms of COVID-19 for up to 4 weeks
- **Ongoing symptomatic COVID-19** (signs and symptoms of COVID-19 for between 4 and 12 weeks)
- **Post COVID-19 syndrome:** signs and symptoms of COVID-19 that continue for more than 12 weeks and are not explained by an alternative diagnosis²⁴³.

The ONS research summarised here is based on people's self-reported experiences of long COVID, as opposed to clinically-diagnosed long COVID²⁴⁴. People can experience long COVID for different periods of time. To measure this, ONS typically uses 3 time periods in their analysis:

- 1) the number of people with long COVID who first experienced COVID-19 symptoms 12 weeks previously
- 2) the number of people with long COVID who first experienced COVID-19 symptoms 12 months previously
- 3) the number of people with long COVID of any duration (having first experienced COVID-19 symptoms at least 4 weeks previously)

The self-reported prevalence rate of long COVID reported by the ONS remains slightly higher for the white ethnic group than the Asian group, as was reported in the third quarterly report²⁴⁵:

- for the period between 4 October and 31 October 2021, 1.36% of the white population of the UK reported that they had long COVID after first experiencing COVID-19 symptoms at least 12 weeks previously, significantly higher than 1.04% of

²⁴³ NICE. COVID-19 rapid guideline: managing the long-term effects of COVID-19. NICE, 2020. Available from: Overview | COVID-19 rapid guideline: managing the long-term effects of COVID-19 | Guidance | NICE

²⁴⁴ The study population only includes those who live in private households. It does not include those living in communal establishments such as care homes or halls of residence.

²⁴⁵ Only statistically significant differences in long COVID prevalence rates are commented on

the Asian population but not black (1.02), other (1.02%) or mixed (1.25%) ethnic groups²⁴⁶

- for the period between 5 September and 2 October 2021, the prevalence rates for the white and black ethnic groups were 1.33% and 0.83% respectively²⁴⁷
- for the period 9 August to 5 September, there were no significant differences in prevalence rates between any of the ethnic groups²⁴⁸
- for the period 5 July to 1 August 2021, the prevalence rates for the white and Asian ethnic groups were 1.28% and 0.98% respectively²⁴⁹
- for the period 7 June to 4 July 2021, the prevalence rates for the white and mixed ethnic groups were 1.31% and 0.90% respectively²⁵⁰
- for the period 10 May to 6 June 2021, the prevalence rates for the white and Asian ethnic groups were 1.34% and 1.06% respectively²⁵¹
- for the period 5 April to 2 May 2021, the prevalence rates for the white and Asian ethnic groups were 1.37% and 0.95% respectively²⁵²

For the period between 4 October and 31 October 2021, 0.69% of the white population self-reported long COVID after first experiencing COVID-19 symptoms at least 12 months previously²⁵³. 0.47% of the other ethnic group, 0.54% of the Asian ethnic group, 0.55% of the black ethnic group and 0.57% of the mixed ethnic group self-reported long COVID after first experiencing COVID-19 symptoms at least 12 months previously but there were no significant differences between any ethnic groups.

0.37% of white, 0.30% of Asian, 0.29% of other, 0.23% of mixed and 0.22% of black people said that they had long COVID of any duration and reported that their day-to-day activity was limited a lot, though there were no significant differences between any ethnic groups

246

<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/datasets/alldatarelatingtoprevalenceofongoingsymptomsfollowingcoronaviruscovid19infectionintheuk>
247

<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/bulletins/prevalenceofongoingsymptomsfollowingcoronaviruscovid19infectionintheuk/4november2021>
248

<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/bulletins/prevalenceofongoingsymptomsfollowingcoronaviruscovid19infectionintheuk/7october2021>
249

<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/bulletins/prevalenceofongoingsymptomsfollowingcoronaviruscovid19infectionintheuk/2september2021>
250

<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/bulletins/prevalenceofongoingsymptomsfollowingcoronaviruscovid19infectionintheuk/5august2021>
251

<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/bulletins/prevalenceofongoingsymptomsfollowingcoronaviruscovid19infectionintheuk/1july2021>
252

<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/bulletins/prevalenceofongoingsymptomsfollowingcoronaviruscovid19infectionintheuk/4june2021>
253

<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/datasets/alldatarelatingtoprevalenceofongoingsymptomsfollowingcoronaviruscovid19infectionintheuk>

Between 4 October and 31 October 2021, women were significantly more likely than men to report that they had experienced long COVID of any duration (2.17% of women compared with 1.56% of men).

Socio-demographic characteristics such as ethnicity, age and occupation can sometimes be highly correlated with one another (for example, health status is related to age). Furthermore, patterns in the prevalence rates of long COVID could reflect differences between ethnic groups in the risk of COVID-19 infection and in the risk of developing prolonged symptoms following infection. For these reasons, ONS previously calculated the “odds” of ethnic minority groups reporting long COVID after first experiencing COVID-19 symptoms at least 12 weeks previously compared with the white group in 3 different models, for data collected between the 5 April and 2 May 2021²⁵⁴:

1. Unadjusted
2. Adjusted (for other socio-demographic characteristics)
3. Adjusted and confirmed COVID-19 cases only²⁵⁵

In the unadjusted model, people from the Asian, black and mixed groups are less likely than white people to report long COVID. In both the second and third models, Asian people were less likely than white people to report long COVID (0.80 and 0.59 times as likely, respectively). All other results for each ethnic group and model were not significantly different from the result for the white group. The results from separate analysis conducted by University College London²⁵⁶ also show that people of “non-white” ethnicity are less likely than white people to report long COVID after first experiencing symptoms at least 12 weeks previously, with an odds ratio of 0.32.²⁵⁷

Figure 6: Odds ratios²⁵⁸ for self-reported long COVID of at least 12 weeks compared with the white ethnic group, by ethnicity: detailed employment sector data²⁵⁹ (5 April to 2 May 2021)

²⁵⁴

<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/datasets/alldatarelatingtoprevalenceofongoingsymptomsfollowingcoronaviruscovid19infectionintheuk> (4 June 2021 edition, Table 14: detailed employment sector data)

²⁵⁵ As determined from a positive COVID-19 test result. Confirmed COVID-19 cases were identified from swab and blood tests, obtained either during study follow-up or outside of the study and reported by participants. Positive antibody test results obtained after COVID-19 vaccination (first dose) were ignored.

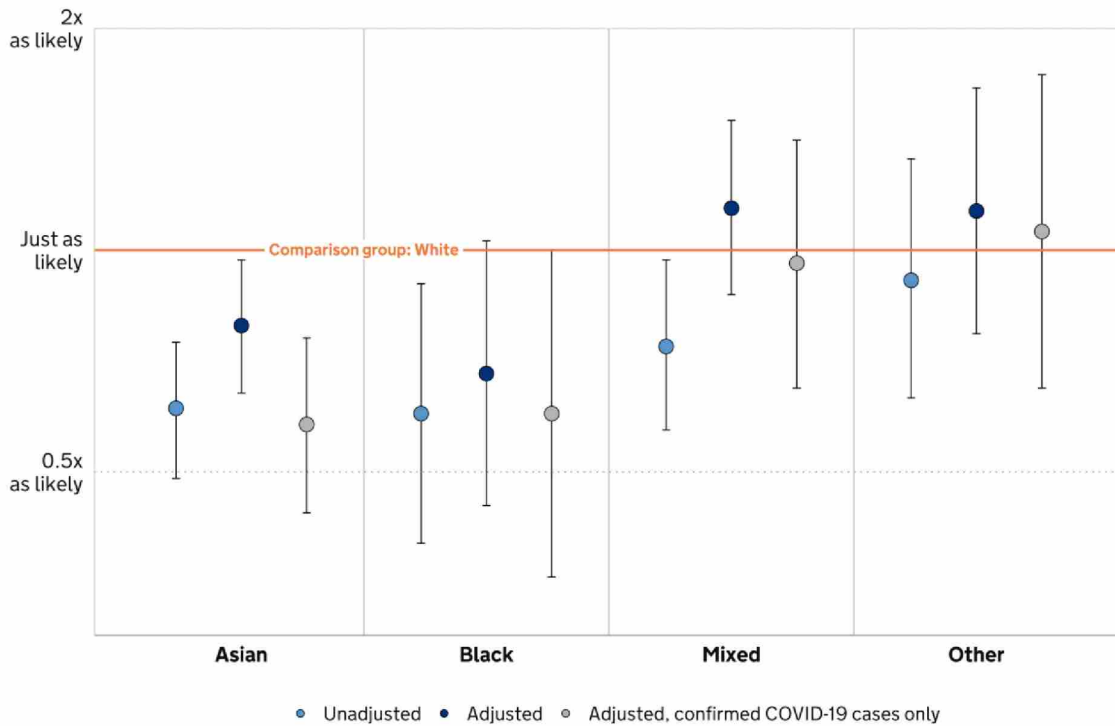
²⁵⁶ <https://www.medrxiv.org/content/10.1101/2021.06.24.21259277v2.full-text>

²⁵⁷ This estimate was calculated by combining results from different data sources, the results from the data sources are different to one another in some cases.

²⁵⁸ An odds ratio (OR) for a particular ethnic group describes the relative difference in the likelihood of reporting long COVID in that group compared with a reference group (in this case, the white ethnic group). An OR higher than 1 indicates a greater likelihood, while an OR less than 1 indicates a lower likelihood

²⁵⁹ Table 14:

<https://www.ons.gov.uk/file?uri=%2Fpeoplepopulationandcommunity%2Fhealthandsocialcare%2Fconditionsanddiseases%2Fdatasets%2Fallongoingsymptomsfollowingcoronaviruscovid19infectionintheuk%2F4june2021/ongoingsymptomsfollowingcovid1920210604.xlsx>



Source: Office for National Statistics

From Autumn 2021, UCL's 'Convalescence Long-COVID Study' will conduct in-depth interviews with 80 participants from across the UK who have experienced long COVID to understand their experiences of and perspectives on the condition (including 40 participants from the Born in Bradford study)²⁶⁰. UK Research and Innovation (UKRI) and the National Institute for Health Research (NIHR) are funding 4 research studies into long COVID in the community, including projects testing therapies for long COVID, and assessing the characteristics, determinants, mechanisms and consequences of long COVID²⁶¹. This will provide an evidence base for health care services and response. In total, the government is providing £50 million in research funding on long COVID.

Vaccinations

The UK's COVID-19 vaccination rollout programme began in December 2020, with older adults, care home residents and frontline health and social care workers prioritised for vaccination. As of 18 June 2021, all adults aged 18 and over became eligible to receive a COVID-19 vaccination in England. This was extended to those aged 16 and over in August.

²⁶⁰ <https://www.ucl.ac.uk/covid-19-longitudinal-health-wellbeing/convalescence-long-covid-study/longitudinal-qualitative-study>

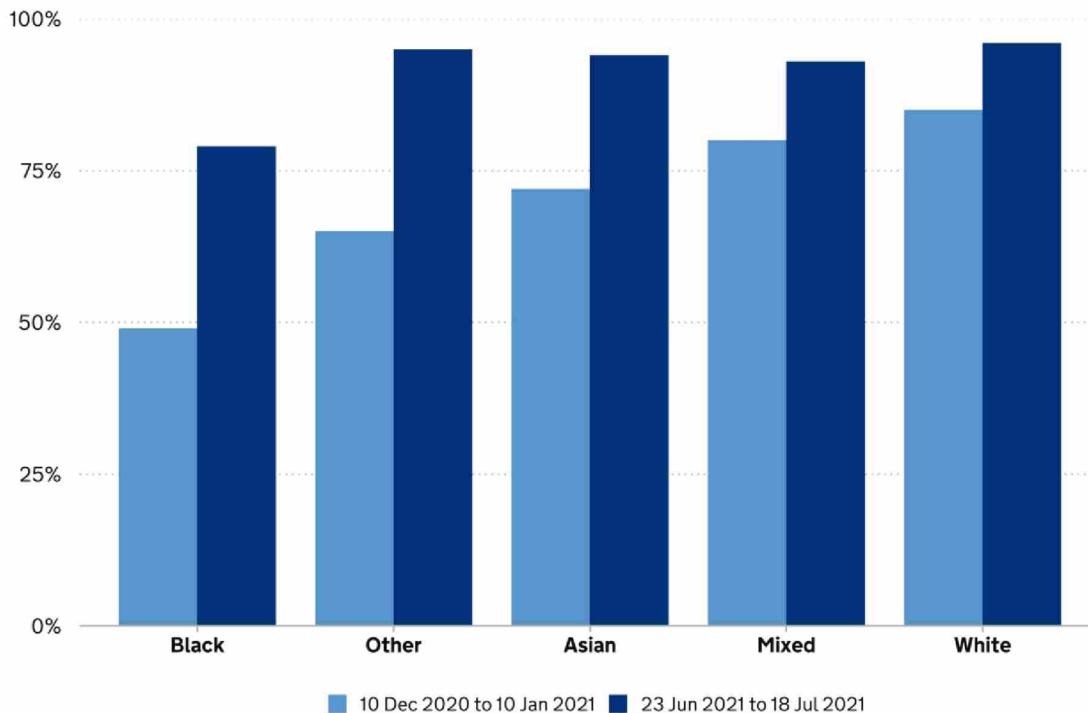
²⁶¹ <https://www.ukri.org/news/18-5-million-to-tackle-long-covid-in-the-community/>

Vaccine sentiment

Vaccine confidence has increased in every ethnic group from the period between December to January and June to July 2021^{262 263}, although black ethnic groups have been consistently shown to have greater vaccine hesitancy than other broad ethnic groups. The vaccine confidence gap between black people and people from other broad ethnic groups has narrowed since December.

96% of adults aged 16 and over in Great Britain reported a positive vaccine sentiment between 23 June and 18 July 2021, according to the latest survey data from ONS²⁶⁴. Vaccine confidence ranged from 93% to 96% in the mixed, Asian, other and white ethnic groups, and was lowest among the black ethnic group (79%)²⁶⁵.

Figure 7: Percentage of people who said they were likely to accept or had already accepted the COVID-19 vaccine, by ethnicity and research period



²⁶²

<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandwellbeing/datasets/coronavirusandthesocialimpactsongreatbritainattitudestovaccines>

²⁶³<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandwellbeing/bulletins/coronavirusandvaccinehesitancygreatbritain/9august2021>

²⁶⁴<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandwellbeing/bulletins/coronavirusandvaccinehesitancygreatbritain/9august2021>

²⁶⁵

<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandwellbeing/datasets/coronavirusandvaccinehesitancygreatbritain>

Source: Office for National Statistics

Research from the University of Birmingham found that between 4 September and 9 October 2020, people from an ethnic minority background had 5.5 times the odds of white people to be interested in taking an approved COVID-19 vaccine²⁶⁶.

Online polling from 25 January to 1 February 2021 found that 9% of people from an ethnic minority background and 8% of those from a white background said they would not get a COVID-19 vaccine²⁶⁷. A higher proportion of ethnic minority people than white people said they would “wait before getting a COVID-19 vaccine to see what happens” (26% and 17% respectively).

Virus Watch analysis found that, of those who said that they would not, or were unsure about, accepting a vaccine in December 2020, 86% reported that they would accept or had already accepted a vaccine in February 2021²⁶⁸. The magnitude of this shift was consistent across all ethnic groups measured, ranging from 72% of people from mixed backgrounds to 90% of people from South Asian backgrounds.

Data from REACT-2²⁶⁹ suggest that from 12 to 25 May 2021, compared with the white population, the odds of vaccine hesitancy were higher in people from black, other and mixed ethnic backgrounds (2.1, 1.9 and 1.6 respectively) and lower in Asian people (0.8) after adjusting for age and sex. This suggests there is no uniform ethnic minority trend in vaccine hesitancy.

Recent ONS analysis shows that among adults who were previously vaccine hesitant, a similar percentage of black (47%) and white (42%) adults had received at least one dose of the COVID-19 vaccine by September 2021²⁷⁰. 54% of Asian, 53% of other and 33% of mixed adults who were vaccine hesitant went on to receive at least one dose.

Vaccine uptake

The COVID-19 vaccines currently available are administered in 2 doses. The second dose is usually given 8 to 12 weeks after the first dose. As at 10 November 2021, 79.9% of the over-12 population in the UK had received 2 doses of the COVID-19 vaccination, and a further 7.8% of the population had received one dose²⁷¹. 19.9% of the population had received a booster or third dose.

Vaccine uptake estimates from NHS England²⁷² suggest that 89.6% of White British over-18 year olds had received at least one COVID-19 vaccination by 31 October 2021 – the highest

²⁶⁶ <https://research.birmingham.ac.uk/portal/files/135561093/e048856.full.pdf>

²⁶⁷ <https://www.ncpolitics.uk/2021/02/ethnic-minorities-and-vaccination/>

²⁶⁸ <https://www.medrxiv.org/content/10.1101/2021.03.22.21254130v1>

²⁶⁹ <https://www.medrxiv.org/content/10.1101/2021.07.14.21260497v1>

²⁷⁰

<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandwellbeing/bulletins/coronavirusandchangingattitudestowardsvaccinationengland/7to16september2021>

²⁷¹ <https://coronavirus.data.gov.uk/details/vaccinations>

²⁷² <https://www.england.nhs.uk/statistics/statistical-work-areas/covid-19-vaccinations/>

rate of uptake out of all ethnic groups. The lowest rates of vaccine uptake in over-18 year olds were among the Chinese (50.8%), Black Caribbean (54.6%) and Black Other (56.8%) ethnic groups. Vaccination estimates for Gypsy, Roma and Irish Traveller populations are not available as NHS systems do not have these categories available to choose.

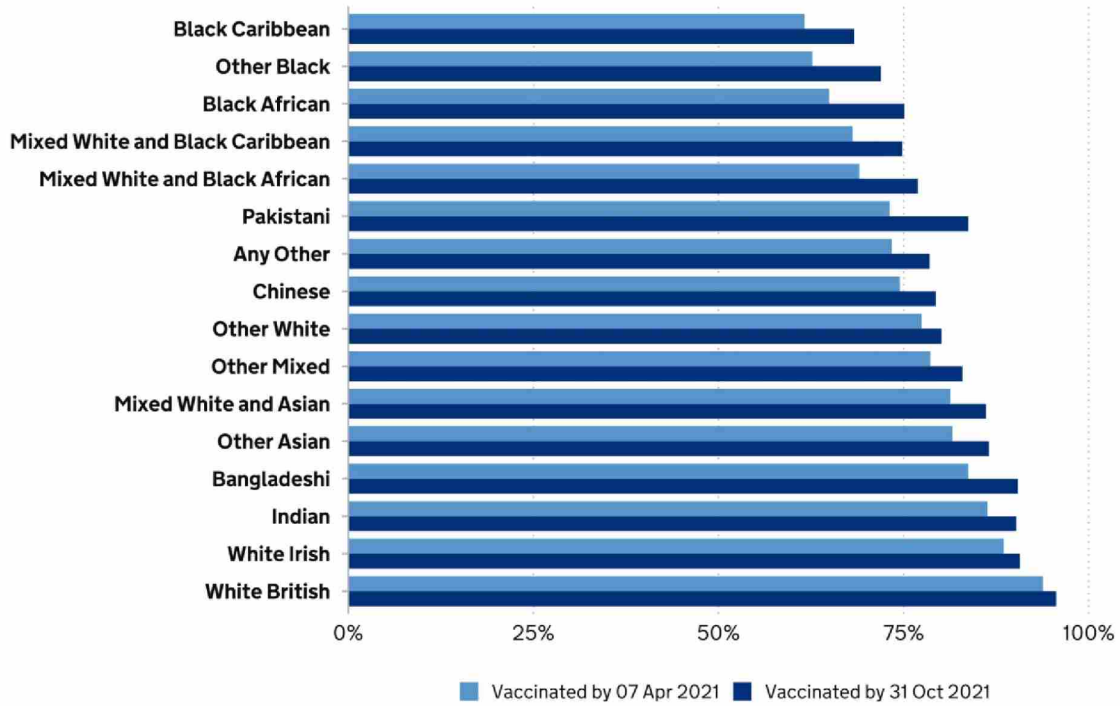
The pattern of vaccine uptake is similar among over-18 year olds who had had both doses of a COVID-19 vaccination by 31 October 2021. The highest rate of uptake was among the White British ethnic group (86.1%) and the lowest was among the Chinese (47.9%), Black Other (49.4%) and Black Caribbean (49.5%) ethnic groups.

It is important to note that older age cohorts have been prioritised for vaccine administration, and that certain ethnic groups (such as the Chinese group) have a younger age profile than other ethnic groups. Therefore, when considering how vaccine uptake varies by ethnicity, looking at rates among over-50s potentially provides greater insight, at least until younger people have been vaccinated to the same rate as older people.

Among over-50 year olds, the White British ethnic group had the highest rate of uptake out of all ethnic groups for both those who have had at least one COVID-19 vaccination (95.6%) and those who have had both doses (94.3%) by 31 October 2021. The lowest rates of vaccine uptake were among the black ethnic groups when looking at both over-50 year olds who have had at least one COVID-19 vaccination (Black Caribbean (68.3%), Black Other (71.9%), Mixed White and Black Caribbean (74.8%), Black African (75.1%)), and over-50 years old who have had both doses (Black Caribbean (64.4%), Black Other (67.4%), Black African (70.6%)).

Between 7 April and 31 October 2021, the percentage of over-50s who had received at least one COVID-19 vaccine increased in all ethnic groups. The largest percentage point increases were in the Pakistani ethnic group (from 73.1% to 83.7%, up by 10.6 percentage points) and Black African ethnic group (from 64.9% to 75.1%, up by 10.2 percentage points).

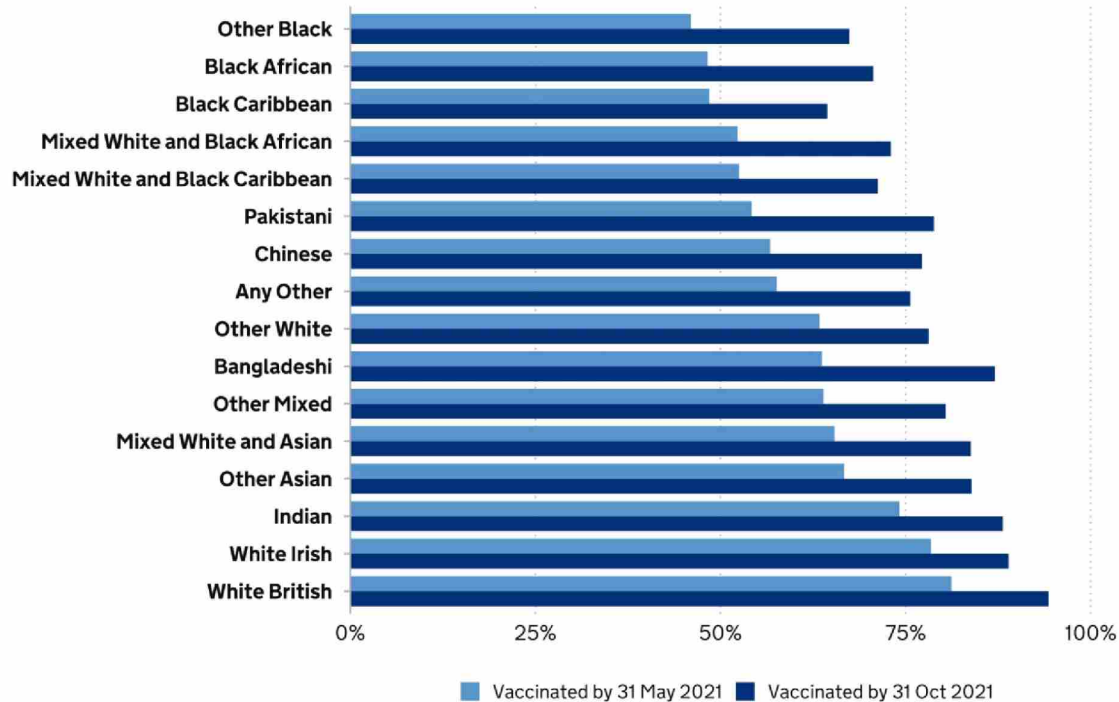
Figure 8a: Percentage of people aged over 50 years who had received at least one COVID-19 vaccine by 7 April and by 31 October 2021, by ethnicity



Source: NHS England

Between 31 May and 31 October 2021, the percentage of over-50s who had received both doses of the COVID-19 vaccine increased in all ethnic groups. The largest percentage point increases were in the Pakistani ethnic group (from 54.2% to 78.8%, up by 24.6 percentage points) and Bangladeshi ethnic group (from 63.7% to 87.0%, up by 23.3 percentage points).

Figure 8b: Percentage of people aged over 50 years who had received both COVID-19 vaccines by 31 May and by 31 October 2021, by ethnicity



NHS vaccinations data also shows regional variations in vaccine uptake up to 31 October 2021. Among over-50 year olds, 96.4% of White British people had received at least one dose of the vaccination in the East of England and 65.6% of Black Caribbean people had received at least one dose in London – the highest and lowest rates of uptake respectively (out of all combinations of ethnic groups and regions). For people in the white, mixed, black and Chinese ethnic groups, the lowest rate of uptake was in London. The Bangladeshi group was the only ethnic group for which London was the region with the highest rate of vaccine uptake, at 91.7%. For most other ethnic groups, the highest rates of vaccine uptake were in the East of England, the South West or the South East.

According to Our World in Data²⁷³, the UK has one of the highest rates of COVID-19 vaccination in the world, in terms of the share of the population that has received at least one dose of the vaccine. As at 9 November 2021, 73.8% of the UK population²⁷⁴ had received at least one dose of the COVID-19 vaccination compared with vaccination rates in Canada (78.7%), Japan (78.5%), Italy (77.5%), France (76.1%), Germany (69.2%) and the United States (66.8%).

Analysis by the American non-profit organisation Kaiser Family Foundation (KFF)²⁷⁵ estimates that at 1 November 2021, 48.0% of the total black population in 43 US states had

²⁷³ <https://ourworldindata.org/covid-vaccinations#what-share-of-the-population-has-received-at-least-one-dose-of-the-covid-19-vaccine>

²⁷⁴ International comparisons of vaccine uptake use each country's whole population as the denominator. Uptake rates for the UK are therefore lower than the estimates for England from PHE and NHS which use the over 18 population.

²⁷⁵ <https://www.kff.org/coronavirus-covid-19/issue-brief/latest-data-on-covid-19-vaccinations-race-ethnicity/>

received at least one dose of a vaccine^{276 277}. In comparison, 63.7% of the Black African population, 54.6% of the Black Caribbean population and 56.8% of the Black Other population aged 18 and over had received at least one dose in England, as estimated in NHS vaccine statistics up to 31 October 2021²⁷⁸.

KFF's analysis also found that 55.0% of the total white population of these states had received at least one dose of the vaccine. This compares to 89.6% of the White British population, 80.0% of the White Irish population and 62.5% of the White Other population, as estimated by the NHS.

Outcomes following vaccination

COVID-19 infection

Research suggests that the risk of COVID-19 infection after a first dose of the vaccine is associated with deprivation (and deprivation is associated with ethnic diversity)²⁷⁹. The risk of post-vaccination infection was highest for people living in areas with higher levels of deprivation and lowest for those living in areas with lower levels of deprivation. Almost all COVID-19 symptoms were reported less in people infected and vaccinated, compared with those infected and unvaccinated.

Long COVID

Recent analysis from ONS²⁸⁰ suggests that between 3 February and 5 September 2021, receiving a first dose of the COVID-19 vaccination was associated with a 12.8% decrease in the odds of self-reported long COVID (symptoms persisting for at least 12 weeks after first having COVID-19 that were not explained by something else) among study participants aged 18 to 69 years in the UK. Receiving a second dose was associated with an 8.8% decrease in the likelihood of self-reported long COVID, relative to having received the first vaccination, and there was statistical evidence of a sustained improvement after this. There was no statistical evidence of differences in post-vaccination long COVID trends according to socio-demographic characteristics (including ethnicity) or health-related factors.

Hospitalisation and mortality

Analysis²⁸¹ found that a first dose of a COVID-19 vaccination reduced the risk of COVID-19 death by 52.6% (95% CI 26.6% to 84.2%) in those aged 80 to 84, compared with those aged

²⁷⁶ The ethnic groups which make up the broad black ethnic group may vary between the US and the UK along with the ethnic group's relative population

²⁷⁷ KFF calculated this figure by aggregating data from the websites of 43 US states. KFF caution that the number of vaccinations attributed to the 'unknown' group varies by state. There are also some differences in reporting periods and racial/ethnic classifications between states

²⁷⁸ <https://www.england.nhs.uk/statistics/statistical-work-areas/covid-19-vaccinations/>

²⁷⁹ [https://www.thelancet.com/journals/laninf/article/PIIS1473-3099\(21\)00460-6/fulltext](https://www.thelancet.com/journals/laninf/article/PIIS1473-3099(21)00460-6/fulltext)

²⁸⁰

<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/articles/coronaviruscovid19vaccinationandselfreportedlongcovidintheuk/25october2021>

²⁸¹ <https://www.medrxiv.org/content/10.1101/2021.07.12.21260385v2>

75 to 79 who had lower vaccination rates at the time, suggesting the vaccination is effective in protecting against COVID-19. Recent ONS analysis found that, of all deaths involving COVID-19 between 2 January and 2 July 2021, 1.2% occurred in people who were fully vaccinated²⁸².

Compared with the white ethnic group, Pakistani and Indian groups were 2.5 and 1.3 times as likely to be admitted to hospital with COVID-19 and 2.3 and 1.6 times as likely to die from COVID-19 after vaccination^{283 284}. The research concludes that “These ethnic disparities in COVID-19 outcomes could represent residual differential exposure (for example, linked to behaviour, lifestyle, household size, and occupation) more than differential susceptibility mechanisms, although we also acknowledge that being vaccinated could change behaviour (and exposure) in some groups more than in others.”

Progress with the first batch of NIHR-funded research projects

A team led by Professor Julia Hippisley-Cox (University of Oxford) and Dr Hajira Dambha-Miller (University of Southampton) have undertaken several analyses to quantify the association between ethnicity and COVID-19. Recent updates include:

- COVID-19 in children²⁸⁵: in a cohort study of over 2.5 million children, testing varied across ethnic groups (17.1% white children were tested compared with 13.6% of Asian, 8.3% of black and 12.9% of mixed or other children). Asian children were more likely to be admitted to hospital for confirmed COVID-19 (adjusted OR 1.62 (1.12-2.36) Asian) and children from ethnic minority groups were significantly more likely to be admitted to intensive care due to COVID-19 (adjusted OR 2.11 (1.07 to 4.14) Asian, 2.31 (1.08 to 4.94) black, 2.14 (1.25 to 3.65) mixed or other)
- Sickle cell disease and trait were observed to be associated with increased risks of severe COVID-19. Sickle cell disease was associated with a 4.1-fold increased risk of COVID-19 hospitalisation, and a 2.6-fold increased risk of dying due to COVID-19, adjusting for age, ethnicity and sex²⁸⁶. In the UK, most people who carry the sickle cell trait have an African or Caribbean family background^{287 288}
- The main analysis of COVID-19 risks across ethnic groups in both waves of the pandemic has been concluded, with comparisons made between England (9.8 million adults) and data from Ontario, Canada (10.3 million). Meta-analysis was undertaken. Those from South Asian ethnic groups had higher risks of COVID-19 death (HR 1.63,

²⁸²

<https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/articles/deaths-involving-covid-19-by-vaccination-status-england/deaths-occurring-between-2-january-and-2-july-2021>

²⁸³ <https://www.bmj.com/content/374/bmj.n2244?s=09>

²⁸⁴ After adjusting for age, BMI, vaccination dose and background infection rate. Results for other ethnic groups were not significant.

²⁸⁵ <https://jamanetwork.com/journals/jamapediatrics/fullarticle/2780966>

²⁸⁶ <https://www.acpjournals.org/doi/10.7326/M21-1375>

²⁸⁷ <https://www.nhs.uk/conditions/sickle-cell-disease/>

²⁸⁸ <https://www.nice.org.uk/guidance/cg143/chapter/Introduction>

95% CI: 1.09-2.44), hospitalisation (1.53, 1.32 to 1.76) and ICU admission (1.67, 1.23 to 2.28). In the English data, it was estimated that sociodemographic, lifestyle and clinical factors accounted for 60.3% (mixed), 43.8% (South Asian) and 39.6% (black) of the excess risks of COVID-19 death

Other work is currently under peer review, including ethnic patterns in uptake of non-COVID vaccines in older adults (aged over 65) across ethnic groups, and effects of prior receipt of influenza, pneumococcal and shingles vaccines on risks of COVID-19 hospitalisation and mortality. The group is continuing to evaluate the effects of specific drugs – for example, medications for diabetes – on COVID-19 outcomes among ethnic minorities.

The Virus Watch project, led by Dr Robert Aldridge (University College London), began recruiting in August 2020, with a focus on the recruitment of people from ethnic minority backgrounds and migrants. As of 14 May 2021, 24,322 households and 50,774 people across England and Wales had joined the study, with 7,839 (15%) of the cohort from ethnic minority backgrounds and 5,318 (10%) people born outside of the UK. 126,414 weekly surveys have been completed by Virus Watch participants from ethnic minority backgrounds since June 2020, and as a result there are just under 1-million-person days of follow-up of people from ethnic minority backgrounds. Between October 2020 and January 2021, full venous samples were collected from 6,243 participants (of which 18% were from ethnic minority backgrounds) and tested for COVID-19 spike (S) antibodies. 30,437 finger prick samples were collected from 11,538 participants (of which 9% were from ethnic minority backgrounds) and tested for COVID-19 spike (S) and nucleocapsid (N) antibodies. Virus Watch has experienced delays from NHS Digital in processing the linked data from participants in the community to hospital and death data. As a result, they are seeking an extension from UKRI.

The team have also completed the following analyses using unlinked data:

- Monthly surveys showed that 86% of people who were uncertain or intending to refuse a COVID-19 vaccine in December 2020 changed their mind and planned on, or had already accepted, a vaccine in February 2021. The magnitude of this shift was consistent across all ethnic groups²⁸⁹
- There is strong evidence of an increased odds of COVID-19 in individuals living in overcrowded houses, but no association was found with ethnicity after accounting for age, sex, household income and geographical region²⁹⁰

²⁸⁹ <https://doi.org/10.1101/2021.03.22.21254130>

²⁹⁰ <https://www.medrxiv.org/content/10.1101/2021.05.10.21256912v1>

Annex E: Is ethnicity a risk factor for infection or mortality from COVID-19?

Summary

People from ethnic minority groups are more likely to experience various risk factors linked with higher COVID-19 infection rates. And for a few ethnic minority groups, residual disparities compared with white people remain after taking account of known risk factors.

The data shows a significant residual excess risk for people from the Pakistani and Bangladeshi ethnic groups (and to a lesser extent other ethnic minorities) even after adjusting for all known risk factors including occupation and co-morbidities. Taken alongside the PHE work²⁹¹ (summarised in the third quarterly report) that showed worse survival for people from the Bangladeshi ethnic group in particular, this indicates that for some ethnic groups, some aspect of their risk is unexplained. But what underlies that excess residual risk is not known – it could be caused by some as yet, unmeasured or unmeasurable risk factors for which ethnicity is a proxy, or it could be partly genetic.

Risk factors

A risk factor (for infection) is something that increases a person's chance of becoming infected with COVID-19. Such factors include geography, population density, age, deprivation, overcrowding, living in a multigenerational household, certain occupations (in particular those that are public-facing) and lifestyle factors.

According to SAGE²⁹², social factors such as poverty and occupation make a large contribution to the greater burden of COVID-19 in ethnic minorities. For example, 24% of households in the Bangladeshi ethnic group were overcrowded (2016 to 2019 combined)²⁹³ and people from the Pakistani ethnic group were over 3 times as likely as White British people to live in the most overall deprived 10% of neighbourhoods²⁹⁴.

There are risk factors linked with higher risk of mortality from COVID-19 (factors that increase a person's chance of dying following COVID-19 infection). Examples of risk factors for mortality following infection include age, sex and (some) underlying health conditions. Some factors, like underlying health conditions, are risk factors for both higher risk of infection and mortality.

Regression analysis

The importance of risk factors can be quantified using multiple regression. This allows analysts to identify the contribution that each risk factor (individually and collectively) is making to the likelihood of infection or death. In the context of COVID-19 mortality, for example, there are

²⁹¹ <https://www.gov.uk/government/publications/covid-19-pre-existing-health-conditions-and-ethnicity>
²⁹²

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/925135/S0778_Drivers_of_the_higher_COVID-19_incidence__morbidity_and_mortality_among_minority_ethnic_groups.pdf

²⁹³ <https://www.ethnicity-facts-figures.service.gov.uk/housing/housing-conditions/overcrowded-households/latest>

²⁹⁴ <https://www.ethnicity-facts-figures.service.gov.uk/uk-population-by-ethnicity/demographics/people-living-in-deprived-neighbourhoods/latest>

wide disparities between ethnic minority groups and the white group. However, when taking account of known risk factors, most of these disparities are reduced significantly or even disappear.

This does not mean that people from ethnic minority groups haven't been affected by COVID-19 much more than people from the white group. However, it does mean that the known risk factors account for most of the disparities. This enables decision-makers to take these factors into account in planning interventions and communications, or making decisions about prioritisation.

The risk for some ethnic groups may actually increase when some characteristics are taken into account. For example some ethnic groups may have lower incidence of certain diseases that are related to COVID-19 mortality, such as dementia, and as a result when these data are added in the regression model the risk of mortality for some ethnic groups increases.

In looking at the impact of risk factors on different ethnic groups, this regression approach is only applicable when we have data about each person's COVID-19 status (such as: infected, hospitalised, died of or with COVID-19), their ethnicity, and the presence or absence of a range of risk factors. In the absence of such data, analysts have been resourceful during the pandemic – for example:

- ONS used occupation data from death certificates to identify those occupations with higher COVID-19 mortality rates, and also looked at the ethnic profile of the 'at risk' occupations, allowing inferences to be drawn
- ONS subsequently linked death records with the 2011 Census to get estimates of COVID-19 mortality by ethnicity and occupation (albeit the occupation data was old)

Residual (excess) risk

Even after taking account of a range of risk factors, some excess risk still remains for some ethnic groups like the Bangladeshi ethnic group. The second quarterly report summarises research ('survival analysis') by PHE showing that, of those infected and testing positive, people from the Bangladeshi, Chinese, Pakistani, Black Other and Indian ethnic groups had an increased risk of death.

It isn't possible to say for sure why there are some residual disparities in the relative risk of mortality. This could be because of:

- aspects of data quality, such as out of date statistics – for example, ONS' work to take account of people's occupations and people's housing conditions uses data from the 2011 Census
- data on some risk factors not being available – for example, the impact of schools reopening on adults becoming infected by children – over-70s in the Bangladeshi and Pakistani ethnic groups are much more likely to have contact with adults and school age children within the same household, there have been larger increases in the R rate when schools have been opened. Other examples include compliance with NPI rules, differences in health seeking behaviours, access to health services, international travel, or the number (and intensity) of contacts with people who have the infection

- Other risk factors that have not been included in the model – for example, the role of genetics.
 - Existing research suggests that the inequalities in ethnic groups from COVID-19 are largely explained by underlying social differences. However, there is some evidence to suggest that genetic differences may also play a role in the disparities
 - However, a gene cluster identified as a risk factor for severe coronavirus symptoms is carried by approximately 50% of people in South Asia, compared with 16% of people in Europe. This gene cluster is associated with a risk of respiratory failure and may partially explain why people in the Bangladeshi ethnic group have the poorest survival rates, but more research on that is needed
 - Researchers at the University of Oxford have identified a gene responsible for doubling the risk of respiratory failure and death from COVID-19 among under 60 year olds^{295 296}. 61% of people with South Asian ancestry carry the higher-risk version of the gene, compared with 16% of those with European ancestry, 2% of those with Afro-Caribbean ancestry and 2% of those with East Asian ancestry. This genetic factor may, in part, explain the higher rates of hospitalisation and mortality among South Asian people
 - In addition, research from the International Investigator Group for Ethnicity and COVID-19²⁹⁷ estimated a 4.1-fold increased risk for COVID-19–related hospitalization and a 2.6-fold increased risk for COVID-19–related death for people with sickle cell disease. It concludes that “Several aspects of sickle cell phenotypes overlap with the pathophysiology of severe COVID-19, which could be relevant mechanisms worthy of further study, as should the directionality of infection and sickle crisis”
 - And researchers at Newcastle University have identified²⁹⁸ a gene that is found 3 times as often in people who had COVID-19 but who were asymptomatic as those who developed severe symptoms – so, people with this gene have a degree of protection from severe COVID-19, but still transmit the virus. People in the North and West of Europe are more likely to have this gene than people from other regions of the world

²⁹⁵ <https://www.nature.com/articles/s41588-021-00955-3.pdf>

²⁹⁶ <https://www.ox.ac.uk/news/2021-11-05-researchers-uncover-gene-doubles-risk-death-covid-19>

²⁹⁷ <https://www.acpjournals.org/doi/10.7326/M21-1375>

²⁹⁸ <https://pubmed.ncbi.nlm.nih.gov/33896121/>

Annex F: Prioritisation and progress of data quality recommendations

In August 2021, the Race Disparity Unit (RDU) and the Office for Statistics Regulation (OSR) held a joint roundtable discussion with owners, providers and users of English healthcare data. This annex summarises discussions about health ethnicity data priorities at the roundtable, has further supporting information for each of the priority recommendations, and updates on work already in progress.

The roundtable

The following organisations were represented at the roundtable:

- Department for Health and Social Care
- King's Fund
- NHS Digital
- NHS England and NHS Improvement
- NHS Race and Health Observatory
- NHSX
- Nuffield Trust
- Office for National Statistics
- Office for Statistics Regulation
- Public Health England
- Race Disparity Unit

Background and aims

The third quarterly report had the following recommendation: "RDU should engage with the Office for Statistics Regulation about priorities for improving the quality of ethnicity data on health records, drawing on others' expertise as appropriate, and report back in the final [fourth] quarterly report."

This formed the basis for the aim of the roundtable which was to discuss the recommendations from the 3 published quarterly reports plus draft recommendations that were being considered for the fourth report. Some of these were derived from the Nuffield Trust report²⁹⁹ on Ethnicity Coding in Health Datasets, and presented by Nuffield Trust at the meeting. The recommendations focussed on:

- Coding of ethnicity data
- Data collection
- Analysis
- Reporting
- Transparency and publication of health ethnicity data

While many of these have been concerned with improving health data, some had wider applicability to other datasets.

²⁹⁹ <https://www.nuffieldtrust.org.uk/research/ethnicity-coding-in-english-health-service-datasets>

Aims of the roundtable

The recommendations were split into 3 priority types, based on an initial RDU assessment, and then discussed at the meeting. When considering priorities, the following were considered:

- Dependencies with other recommendations
- Impact on the overall quality
- Resources required
- Amount of data and analyses available
- Wider applicability
- Improved stakeholder and user views

Outcomes

The outcome of the discussion was broad agreement on the priorities. In order to progress these priorities, RDU recommends that the main organisations associated with improvements to health ethnicity data should create a Programme Board, involving representatives of the user community and other relevant stakeholders (including Devolved Administrations), to oversee the implementation of the priorities listed. This and associated governance arrangements are vital to ensure that individual projects and tasks, and interdependencies, are managed coherently.

The Board should also provide regular reports outlining progress towards implementing the priorities. This was outlined in the second quarterly report³⁰⁰.

Higher priority next steps

2 next steps were agreed as higher priority in the roundtable discussions:

- Improving ethnicity coding in health datasets
- Reviewing data dissemination

Improving ethnicity coding in health datasets

There was agreement between departments and agencies at the roundtable that the highest priority next step was to improve the coding and recording of ethnicity data. Previous quarterly reports and the Nuffield Trust report³⁰¹ on ethnicity data in health records highlighted that data coding issues will have a significant impact on the “understanding of ethnic inequalities and the ability to identify effective responses”³⁰².

The coding issues affect records for patients from ethnic minority groups disproportionately. Some of them have been identified in previous quarterly reports and include:

³⁰⁰ <https://www.gov.uk/government/publications/second-quarterly-report-on-progress-to-address-covid-19-health-inequalities/second-quarterly-report-on-progress-to-address-covid-19-health-inequalities> “NHSEI, working with DHSC and others, should publish a quarterly report on progress in improving the recording of ethnicity in health care records.”

³⁰¹ <https://www.nuffieldtrust.org.uk/research/ethnicity-coding-in-english-health-service-datasets>

³⁰² <https://www.nuffieldtrust.org.uk/research/ethnicity-coding-in-english-health-service-datasets>

- incomplete recording of ethnicity, inconsistent use of ethnicity codes, and use of 2001 Census codes
- the issue of patients' records showing multiple, different, ethnicities
- a large and growing proportion of patients whose ethnicity has been recorded as “not known”, “not stated” or “other” which impedes reliable analyses of ethnic differences
- Quality issues affect some groups more than others – for example, data quality is worse for people in London, in adults of working age, for patients with short hospital stays, and for independent providers

Analyses to further understand COVID-19 and other health disparities between ethnic groups will significantly improve if the coding of ethnicity for patients improves. This will also help identify ethnicity on death certificates.

Improving ethnicity data could come from a 2-part approach:

- improve existing data quality at source (ethnicity coding)
- understand and report on the limitations of existing data, and use new analytical methods to improve it

Consideration is being given by DHSC to interdependent pieces of work proposed by NHS England to improve the coding of ethnicity, on receipt of which responsibility will be outlined to relevant leads. This basis of this programme of work would include developing an ethnicity information standard for the NHS and a plan for implementing the new standard.

As noted in the third quarterly report, and by Nuffield Trust, this standard should include new, up-to-date guidance on ethnicity coding for health service providers and GPs.

The guidance needs to cover all NHS-funded care and cover how patients are asked for their ethnicity and how it is recorded in health records. It should include which ethnicity categories are used. The categories might be derived from recommendations in the Unified Information Standard for Protected Characteristics (UISPC) project, described in the first quarterly report. Where ethnicity for a patient needs to be recorded by someone else (reporting “by proxy”), guidelines should cover how this should happen. Proxy reporting of ethnicity is usually of poorer quality than that reported by the individual. Some issues with the proxy reporting of ethnicity data are covered in a recent RDU Methods and Quality Report³⁰³.

RDU has previously noted the importance of harmonising ethnicity classifications (and those of other personal characteristics). ONS is also in the process of planning what work must go into developing a new harmonised standard for ethnicity, which will involve discussions across the GSS and with users. There is a risk that the UISPC and GSS classifications for ethnicity might end up being unable to be reconciled. There should be dialogue between DHSC, NHS England and the ONS Harmonisation team to ensure that the 2 classifications can be reconciled. This does not necessarily mean that the classifications need to be identical.

³⁰³ <https://www.gov.uk/government/publications/differences-in-the-quality-of-ethnicity-data-reported-by-individuals-and-third-parties>

Updating the ethnicity classification in health datasets would increase consistency with other health and non-health datasets and in practical terms possibly allow information for Gypsy, Irish Traveller and Arab groups to be presented. No final decision has been made on the categories from the UISPC project and RDU reiterates the importance of progressing this work as part of the wider work programme.

Subsequently, and to ensure that the information standard is implemented correctly and consistently, and on a continuous basis:

- Integrated care system leaders should ensure that the updated guidance on ethnicity coding is implemented
- Boards and leaders of NHS providers and commissioners, and GP practices, should take ownership of the quality of ethnicity coding for their patients, ensure that the updated guidance is implemented, routinely monitor the quality of coding, identify how it can be improved, and put in place actions to achieve this. Once guidance on ethnicity coding is available, all health care providers should endeavour to record, update and correct ethnicity coding in all patient records
- The guidance should be reviewed and updated on a regular basis

RDU appreciates that this is a long-term initiative that needs to consider, for example, how to reconcile the numerous standards that already exist across NHS and other healthcare providers systems. It would involve liaison with the system suppliers to develop data capture interfaces. Decisions would also need to be made on how to migrate existing data.

Finally, data linkage is a powerful tool that can be used to better understand the quality of ethnicity recording in different datasets and improve estimates. The ONS has demonstrated that it is possible to use an anonymised process to link NHS Hospital and Episode Statistics, and GP data for England to the 2011 Census ethnicity data in the ONS's internal secure analysis environment³⁰⁴. The quality of linkage rates and issues such as immigration since the last Census remain limitations but self-reported ethnicity data from the Census is widely regarded as the most robust information available for analysing ethnic health disparities.

The ONS has used this linked data to produce key analyses for understanding the pandemic and the health of ethnic minorities more widely. ONS is also making the linked data available in de-identified form to accredited researchers through its outward-facing secure research environment (SRS) as quickly as possible within technical constraints and the governance framework. The ONS is also planning research to investigate the quality of ethnicity data recording in different health datasets in the UK and to propose methods to account for bias in these sources.

A similar approach could be taken using the 2021 Census records when they become available and RDU recommends as a next step that ONS, collaborating with the other relevant health departments, considers how this work linking health and Census data could be improved and extended to facilitate more reliable, timely and detailed estimates of ethnic health disparities on a regular basis.

304

<https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/methodologies/deathsinvolvingcovid19byreligiousgroupandethnicgroupenglandmethodology>

Any work of this kind should respect the legal and ethical constraints around Census and patient data, while seeking every opportunity to achieve the overarching objective of improved data quality.

Reviewing data dissemination

RDU has recommended 2 next steps on data dissemination. First, that health departments including DHSC, NHSEI and NHS Digital should review and action existing requests for data from RDU and others for the purposes of analyses of the pandemic. There have been protracted difficulties in securing access to NHS Electronic Staff Record data by ethnicity for the UK-REACH team to be able to link with regulator data and healthcare outcomes. The delays appear to be the result of a lack of clarity about the ownership (controller/processor) of the ESR data. Obtaining this would be hugely beneficial for improving understanding of COVID-19 impacts.

NHS Digital has taken steps to make more information available on vaccinations recently for different areas and characteristics (via the NHS COVID-19 vaccinations website³⁰⁵). But some data remains unpublished that would add huge value to the evidence base. These include, for example:

- **Information on the number of COVID-19 deaths of healthcare workers, by ethnicity.**

This data is crucial for the UK-REACH study into ethnicity and COVID-19 outcomes in Healthcare workers³⁰⁶. The study abstract notes that “current evidence of the association between ethnicity and COVID-19 outcomes in people working in healthcare settings is insufficient to inform plans to address health inequalities.” RDU has been told that NHS England has concerns about the quality of these data, but in general RDU considers that the appropriate approach in such circumstances is to make the data available, with a description of the quality limitations and their impact on interpretation.

- **The number of hospital-acquired COVID-19 infections and deaths³⁰⁷**

Data on this was collected through FOI requests to NHS Trusts. NHS England has published data on hospital-acquired COVID-19 infections but it has not published statistics on people who died as a result. Furthermore, 45 acute hospital trusts did not respond to the FOI request with data.

- **Uptake and use of the NHS COVID-19 app by different ethnic groups**

This data is currently collected in the PIRU tracker survey, as the app is anonymous and does not collect ethnicity³⁰⁸. The third quarterly report recommended that this data be published to inform activity to increase the uptake and continued use of the NHS COVID-19 app. As well as ethnicity, data from the research on app usage for other groups (such as disabled people) would also be useful.

³⁰⁵ <https://www.england.nhs.uk/statistics/statistical-work-areas/covid-19-vaccinations/>

³⁰⁶ <https://bmjopen.bmj.com/content/11/6/e046392>

³⁰⁷ <https://www.bmj.com/content/373/bmj.n1492>

³⁰⁸ A nationally representative sample of smartphone users aged 18 to 79 years in England and Wales, recruited through YouGov's online panel

Second, RDU recommends that there is an independent strategic review of the dissemination of healthcare data and the publication of statistics and analysis. This review should consider 2 aspects in particular:

- changes to processes that might facilitate and streamline data sharing and access in the future, while respecting legal and ethical constraints of the data
- that all useful and relevant microdata and aggregate statistics pertaining to the pandemic should be released in the future

The review might usefully consider the importance of leadership in developing a culture in which data are shared and statistics published unless there are compelling reasons not to do so.

The basis of the review should be underpinned by a complete commitment to transparency in all instances unless patient confidentiality is threatened.

The general principles of the Code of Practice for Statistics³⁰⁹, and particularly the principles of 'honesty and integrity' are relevant here: "The collection, access, use and sharing of statistics and data should be ethical and for the public good". And there are significant benefits to the implementation of these 2 recommendations around data access and sharing. These include more and better quality research being possible, more options for data linkage and increased transparency and trustworthiness in outputs, and thus the creation of better policy interventions to improve outcomes for different groups now and in the future.

Lower priority next steps

The following next steps were discussed and agreed as lower priority in the roundtable discussion. It should be stressed that they are important actions for improving the quality of ethnicity data collection, analysis and reporting, and should not be interpreted as being of "low" priority.

Reporting unknown ethnicity

The proportion of records that have been coded with an ethnic group³¹⁰ can vary between different areas and providers. This demonstrated in management information on ethnicity coverage rates by Clinical Commissioning Group (CCG) are published by NHS Digital³¹¹. The coverage of ethnicity data for providers is also part of the NHS Data Quality Maturity Index³¹² (DQMI), a monthly publication about data quality in the NHS.

NHS data combined from Hospital Episode Statistics and GPES Data for Pandemic Planning and Research (GDPPR) shows that across the 106 CCGs, ethnicity was reported for 93.6% of patients by 4 October 2021.

³⁰⁹ <https://code.statisticsauthority.gov.uk/the-code/trustworthiness/t1-honesty-and-integrity/#>

³¹⁰ And are not unknown, or missing, for example.

³¹¹ <https://digital.nhs.uk/data-and-information/publications/statistical/mi-ethnic-category-coverage/current>

³¹² <https://digital.nhs.uk/data-and-information/data-tools-and-services/data-services/data-quality>

Out of the 10 CCGs with the highest proportion of patients with a known ethnic category, 6 were located in the North West of England. NHS Knowsley had the highest coverage, at 98.4%, followed by NHS South Sefton and NHS Southport and Formby, both at 97.8%.

The lowest rate of ethnicity reporting was in NHS Bury, at 82.6%. NHS North West London was among the 10 CCGs with the lowest level of ethnicity coverage, at 90.1%, and had the highest number of patients with a known ethnicity (2,721,625) out of all CCGs.

Higher rates of recording of ethnicity do not necessarily mean better quality data. Records might have valid codes but they might not be coded correctly and the high priority work we have described will help to improve this coding.

The Nuffield Trust report recommended that the DQMI should include the proportion of records coded as not known, not stated, an 'other' group and 'any other ethnic group' in order to better understand the data quality of NHS datasets and for monitoring how data quality changes over time. RDU believes this is a good approach and the work should be progressed by NHS Digital.

More widely, though, all other datasets and analyses (for example, of vaccine uptake) should also include levels of unknown ethnicity and an assessment of how this might affect the interpretation for different ethnic groups.

This is important as it allows users to gain a better understanding of data quality across different datasets, aiding interpretation of data and analysis, and the quality of health datasets can be more effectively monitored and action taken to improve quality over time.

Increasing representation of ethnic minority groups in clinical trials

Research by the National Institute for Health Research (NIHR)³¹³ has shown that ethnic minority groups are also under-represented in clinical trials with participation of ethnic minority groups falling below the UK population average of 13.8%.

From a total of 622,978 participants taking part in COVID-19 studies across the UK, for example:

- The percentage of ethnic minority participants involved in COVID-19 studies is 9.3% (57,661 participants)
- The proportion of ethnic minority participants involved in interventional studies is 9.6% (4,743 participants)
- Ethnic minority participants taking part in observational studies make up 9.2% (52,918 participants)
- However, participation in COVID-19 vaccine studies is lower – with just 5.7% of the total (1,509 participants) from an ethnic minority

It is essential that the ethnicity of participants reflects the wider population. A University of London research paper noted that the underrepresentation of ethnic minority groups in COVID-19 might likely be due “to a combination of personal and structural factors. Socio-political factors may include social deprivation limiting access to health services, and

³¹³ <https://www.nihr.ac.uk/news/nihr-research-ethnicity-data-provides-insight-on-participation-in-covid-19-studies/26460>

subsequently, participation in – and awareness of – health research. Participant-related factors may include language and cultural barriers, and mistrust towards researchers and research institutions³¹⁴ and may vary between different ethnic groups.

The importance of this was also noted in the Commission on Race and Ethnic Disparities' final report³¹⁵. Some of the first priorities for the proposed new Office for Health Disparities would be:

- Investigating barriers to increasing diversity of participants into clinical research studies including clinical trials and genetic studies and identifying solutions
- Campaigns to improve the participation in clinical trials and cohort studies of underrepresented groups including ethnic minority groups and more deprived populations

Samples should be representative of ethnic minorities, so that new treatments and vaccines being trialled are effective for everybody, and there is also a strong argument for targeted over-representativeness to ensure significant differences between groups can be identified.

Quality of health ethnicity data and statistics

The ONS plans to study the quality of ethnicity data recording across different health datasets in England and to propose methods to account for bias in these sources. The Office for Statistics Regulation will also continue to hold statistics producers to account to ensure the quality of ethnicity data and that statistics meet users' needs.

The Office for Statistics Regulation would encourage DHSC to keep users informed on the progress with the priority next steps.

Next steps already being progressed

The following 'next steps' are already being progressed. The roundtable discussion reflected on the progress that has been made on data quality improvements in some areas, to ensure that this work continues.

Collecting ethnicity as part of death certification process

Work is progressing to make ethnicity a mandatory question for healthcare professionals to ask of patients, and transferring that ethnicity data to a new, digitised Medical Certificate Cause of Death which can then inform ONS mortality statistics.

As part of this process, it is important to confirm that the ethnicity of the person who has died will come from patient records. As described in the quarterly reports, these and other potential sources of an ethnicity record will have strengths and limitations.

³¹⁴ <https://www.sciencedirect.com/science/article/pii/S2589537021001838#bib0004>

³¹⁵ P. 231

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/974507/20210331_-_CRED_Report_-_FINAL_-_Web_Accessible.pdf

Consideration should be given to reviewing and learning from the experience of recording ethnicity at death certification in Scotland.

Harmonising datasets across government and the agencies

Work is progressing to encourage departments and agencies to commit to aligning their ethnicity data collections to the harmonised ethnicity standard as defined by the Government Statistical Service (GSS), and publish their commitment to doing so, including timescales. This was a recommendation from the second quarterly report³¹⁶.

RDU are currently working with departmental representatives from the Harmonisation Champions Network to action this, pending a new harmonised standard being produced by the GSS, led by the Harmonisation team in ONS.

Describing analysis methods

The Nuffield Trust recommended that methods to address data quality issues in the analysis of ethnic differences should be clearly described. Progress in this area has been made in the analysis and descriptive metadata of linked Census and Hospital records by ONS and the methodology developed by Public Health England that focused on a new method of determining ethnicity using Hospital Episode Statistics (HES), described in the first quarterly progress report³¹⁷.

Since patients may report different ethnicities in different episodes of care – for example, as an inpatient, as an outpatient, or during a visit to A&E – a method of choosing which ethnicity to take is required. During the COVID-19 pandemic, it has become evident that the original method of determining ethnicity has overestimated the number of people in the ‘other’ ethnic group, so alternative methods of determining ethnicity from HES were investigated.

The original method used the most *recent* ethnicity recorded through linkage to Hospital Episode Statistics. This was supplemented by self-reported ethnicity recorded on test request forms using the Census 2011-based harmonised standard for ethnicity. The new method uses self-reported ethnicity from test request forms and supplements this with the most *frequent* ethnicity recorded through linkage to Hospital Episode Statistics, unless the most frequent was ‘other’ when the second most frequent was chosen. The new method has resulted in a reduction in the number of cases allocated to the ‘other’ ethnic group and a slight increase in the percentage allocated to all other ethnic groups.

As noted in the data analysis section, ethnicity data in the PHE report on confirmed deaths has been updated based on this new method.

³¹⁶ <https://www.gov.uk/government/publications/second-quarterly-report-on-progress-to-address-covid-19-health-inequalities/second-quarterly-report-on-progress-to-address-covid-19-health-inequalities>, "Departments and other agencies should publish a statement on GOV.UK outlining their plans to move their data collections to the Government Statistical Service's (GSS) harmonised ethnicity data standard."

³¹⁷ <https://www.gov.uk/government/publications/third-quarterly-report-on-progress-to-address-covid-19-health-inequalities/appendix-b-quarterly-progress-report-on-improvements-to-health-datasets>

Similarly, any new analytical methods to address data quality issues in the analysis of ethnic differences like the new PHE methodology should continue to be clearly described, and published in the interests of transparency.

Increasing representation of ethnic minority groups in surveys

Progress has been made in increasing the sample sizes in some of the surveys used to measure COVID-19 outcomes, such as the Opinions and Lifestyle Survey, the COVID-19 Infection Survey and the REACT-2 survey. However, often the representation of ethnic minority groups is lower in sample surveys than in the corresponding population (meaning that findings may not be representative), and sample sizes in those surveys might not be large enough to detect statistically significant differences between groups or over time for some ethnic minority groups. This is especially true for individual (rather than aggregated) ethnic groups – for example, analysing the Black African and Black Caribbean groups rather than the black group as a whole.

The first quarterly report noted how ONS has recently initiated a wider project to improve how they engage with under-represented groups. The project will develop evidence-based recommendations to ensure that future mixed-mode social survey designs are more representative.

As part of this project ONS is also going to consider its approach to sample design to investigate whether the samples drawn could be more inclusive and representative of minority groups than at present.

Increasing and improving the use of long COVID codes

The main report notes the significant work ongoing between NHS-X and GP suppliers to improve the capture of data about long COVID. The GP Enhanced Service for long COVID has supported GP training and education, and activity around reducing inequalities³¹⁸. It has also supported GPs in recording long COVID codes in databases when the condition is diagnosed.

Developing the database for health and care statistics in England

There are many data sources that are currently being used to analyse the impact of COVID-19, rates of vaccination uptake and vaccine sentiment, and more recently long COVID. In order to bring some of these datasets together for the benefit of users, the ONS has been developing a website tool³¹⁹ that compiles official statistics relating to health and care in England into one location.

This is a great start in helping users understand the complex health data landscape. This complexity is highlighted by the fact there are 760 separate data records in the ONS tool

³¹⁸ <https://www.england.nhs.uk/wp-content/uploads/2021/06/C1302-Update-to-GP-contract-arrangements-for-2021-22-.pdf>

³¹⁹ <https://gss.civilservice.gov.uk/dashboard/tools/health-and-care-statistics/database.html>

already. The tool has enormous potential to lead to higher quality research and analysis, and provide increased trustworthiness from users from greater transparency.

Relevant publications and datasets covering England are identified in the tool via the gov.uk statistics release calendar³²⁰ in collaboration with the English Health Statistics Steering Group³²¹. The tool is updated each month with new publications from the previous month. In addition to the main update once a month, ONS also does a weekly update of COVID-19 publications, due to the volume of publications and the need for timely statistics on COVID-19.

Datasets published for customers on an ad-hoc basis are not included in the tool. These can be found on the ONS User Requested Data³²² and NHS Digital Supplementary Information websites³²³. Other data and analysis have been made available in different ways, including through data repositories, data dashboards such as the ONS COVID-19 latest insights interactive tool³²⁴, analysis of new or existing datasets, and published FOI requests.

In addition, numerous organisations external to the public sector have contributed research and data collection during the pandemic. Data and analysis from some of these organisations have been referenced in previous quarterly reports, such as OpenSAFELY's analysis of mortality, hospitalisations, infections and vaccine take-up, and Virus Watch's analysis of vaccine sentiment for different ethnic minority groups.

When considering future developments to this tool, RDU recommends for this report that ONS should continue to develop the tool and might investigate:

- how ethnicity (and potentially other protected characteristics) might be represented in the tool (acknowledging the links and overlap with the ONS Equalities Data Audit³²⁵, an audit of UK data on the protected characteristics specified in the Equality Act 2010)
- Whether research from external sources could be included
- How some of the other tools and services available can be linked with this work. For example, the COVID-19 daily summary, the reference library for COVID-19 datasets³²⁶ and the ONS COVID-19 latest insights interactive tool³²⁷

³²⁰ https://www.gov.uk/search/research-and-statistics?content_store_document_type=upcoming_statistics

³²¹ <https://gss.civilservice.gov.uk/user-facing-pages/health-and-care-statistics/the-english-health-statistics-steering-group/>

³²² <https://www.ons.gov.uk/aboutus/whatwedo/statistics/requestingstatistics/alladhocs>

³²³ <https://digital.nhs.uk/data-and-information/find-data-and-publications/supplementary-information>

³²⁴ <https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/articles/coronaviruscovid19/latestinsights>

³²⁵ <https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/datasets/inequalitiesdataaudit>

³²⁶ <https://data.england.nhs.uk/covid-19/>

³²⁷

<https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/articles/coronaviruscovid19/latestinsights>

There might also be benefits in providing more guidance and signposting for health statistics to help a layperson navigate their way through the health data landscape (with a wider focus than COVID-19 data about ethnicity).

RDU will consult with the English Health Statistics Steering Group about this.

Reporting on the quality of coding

Analyses of healthcare activity should routinely include the ethnic dimension, and should include reporting on the quality of coding. This action is incumbent on all organisations reporting on health data.

This would mean more data is available for ethnic groups to inform policy-making and monitoring, and users will gain a better understanding of data quality across different health datasets that will aid interpretation of the data.