British Heart Foundation

# Submission

Health Foundation Covid-19 Impact Inquiry

December 2020

## About the British Heart Foundation

The British Heart Foundation (BHF) is the largest independent funder of medical research into heart and circulatory diseases in the UK and research we fund has helped halve the number of people dying from these conditions since the 1960s. Today, there are more than 7 million people living with heart and circulatory diseases in the UK and these diseases still cause more than a quarter of all UK deaths. Healthcare costs relating to heart and circulatory diseases are estimated at £9bn each year. Our ambition is to beat heartbreak forever, and we work to transform the detection and treatment of heart and circulatory diseases and provide trusted information for people affected by these conditions.

## 1 Executive summary

The BHF wishes to acknowledge and give thanks to the millions of health and care professionals, and other NHS and social care staff, who have been on the front line in the fight against Covid-19. There is no doubt that through their enormous efforts, many lives will have been saved and we recognise the huge challenges they have faced throughout the pandemic. The NHS response to the first wave of the pandemic was necessary to allow it to deal with the large and immediate need from people suffering from a new, highly infectious disease. As the largest independent funder of cardiovascular medical research in the UK, as well as a source of trusted information and support for the 7.4 million people living with heart and circulatory diseases, we seek in this submission to highlight the impact of the pandemic on people with heart and circulatory conditions and the services they use. We do so with the understanding that there are no easy solutions but hope that by highlighting these impacts, we can draw on learnings from the first wave and, ultimately, save more lives.

The Covid-19 pandemic has had a profound impact on people with heart and circulatory diseases. Delays in people seeking care, coupled with reduced access to routine tests and treatments, likely contributed to a rise in excess deaths, including in people aged under 65, and affected people's longer-term health. This has had a disproportionate impact on people with ethnic minority and socioeconomically deprived backgrounds. Not only are many at higher risk of severe illness and death from Covid-19, but they have also faced delays to vital treatment and care.

Insight gathered by the BHF since the beginning of the pandemic in March 2020 shows that:

- There was a 40% reduction in hospital admissions[1] for acute coronary syndromes between mid-February and end of March 2020. This decline was partly reversed during April and May 2020. By the end of May 2020 there was only a 16% reduction[2] from baseline.
- Postponement of diagnostic tests such as echocardiograms (used to detect a range of serious heart conditions) has led to a large backlog in waiting lists. As patients increasingly wait longer for treatment and care, the urgency of these procedures for individual patients may be increasing, creating a significant cohort of patients who may need urgent treatment or in whom treatment may be suboptimal by the time it is offered.
- The pandemic has placed the health and care system under intense pressure, and reduced capacity to address other urgent health issues. Staff redeployment, combined with an ongoing need to maintain social distancing,

[1] Marion M. Mafham, 'Covid-19 pandemic and admission rates for and management of acute coronary syndromes in England', *The Lancet*, 396, 10248 (2020) pp. 381-389, https://doi.org/10.1016/S0140-6736(20)31356-8
[2] Ibid.

have resulted in a reduction in the throughput of care and hence a significant amount of routine care has been postponed. These factors have affected the pace at which the health and care system can carry out work and have also significantly curtailed the ability of services to address the rising backlog.

- There has been a decrease in available recovery and support services (for example, for those who have suffered a heart attack or stroke). Some services implemented virtual-only options, while some areas lost their services altogether.

These issues have all likely contributed to the rise in excess deaths, with many indicators suggesting a growing undefined and invisible patient population that may be getting sicker as care is delayed. The NHS is now facing a great challenge as it contends with tackling a significant and growing backlog of treatment for people with pre-existing heart and circulatory conditions, while continuing to deal with the direct impact of Covid-19.

This submission outlines the main lessons learned for health and care services during the first wave of the pandemic and provides insight on proposed considerations for future phases of the pandemic. Longstanding issues with funding, workforce, and capacity have meant that the NHS has struggled to accommodate the unexpected need brought about by the pandemic. The NHS faces significant challenges in the coming months and, while there is no quick or easy fix, these issues are not intractable - we believe that the impact of the pandemic can be mitigated by leveraging the learning from the first wave of Covid-19.

## 2 The direct impact of Covid-19 on people with heart and circulatory diseases

There is strong evidence that many people with heart and circulatory diseases, and their risk factors, are at increased risk of severe outcomes and death from Covid-19.

Heart and circulatory disease risk factors, including obesity, high blood pressure (hypertension) and diabetes, raise the risk of severe illness from the virus. For example, studies have shown that people with diabetes have increased risk of dying in hospital with Covid-19[3]. This remains the case when other confounding factors, such as socioeconomic background, are adjusted for. The same can be said of obesity. Public Health England's (PHE) evidence review of disparities in risks and outcomes from Covid-19 concluded that obesity worsened patients' outcomes from Covid-19 at every stage, increasing the risk of hospitalisation, intensive care unit (ICU) admission and death from Covid-19.[4] This risk was found to grow substantially as BMI increases above the healthy weight range[5]. The evidence indicates that having a weight classed as obese therefore puts people at greater risk of severe outcomes from Covid-19[6].

Heart and circulatory diseases also put people at higher risk. A study of UK patients who were hospitalised with Covid-19 found that 29% had known chronic heart disease[4]. Additionally, official mortality statistics in England, Scotland and Wales show that coronary heart disease is one of the most common pre-existing health conditions in people who have died with Covid-19 in England and Wales. Around 45% of Covid-19 death certificates in England mention heart and circulatory diseases[5].

Recognising a clear need in understanding why patients with heart and circulatory diseases were disproportionately affected by Covid-19, the NIHR-BHF Cardiovascular Partnership established a framework to support the delivery of seven

[3] Emma Barron et al. 'Associations of type 1 and type 2 diabetes with Covid-19-related mortality in England: a whole-population study', *The Lancet: Diabetes and Endocrinology*, 8, 10 (2020) pp. 813-822, https://doi.org/10.1016/S2213-8587(20)30272-2.
[4] Annemarie B. Docherty et al. 'Features of 16,749 hospitalised UK patients with Covid-19 using the ISARIC WHO Clinical Characterisation Protocol', medRxiv, (2020), https://doi.org/10.1101/2020.04.23.20076042. Please note this article is a preprint and has not been peer-reviewed.
[5] Public Health England, 'Disparities in the risk and outcomes of Covid-19', (2020), www.gov.uk/government/publications/covid-19-review-of-disparities-in-risks-and-outcomes

flagship Covid-19 research projects across the UK. For example, one of these projects is trying to define the extent and persistence of damage to the heart and other organs because of Covid-19 infection[6]. While research is still emerging, it seems likely that Covid-19 can damage the heart during illness (as with severe flu). There is also substantial evidence that coronavirus can affect blood vessels.[7] It is, therefore, possible that the pandemic will produce a new cohort of patients with heart and circulatory diseases that will require treatment. This new patient population will add pressure to health and care services that are already stretched and may increase the backlog of care. The impact of the pandemic on cardiovascular services, and waiting times for patients, is discussed in more detail below.

Prior to the onset of the pandemic, people with ethnic minority backgrounds already suffered an increased burden from some heart and circulatory diseases and their risk factors. While it is possible that these underlying conditions are contributing to the disproportionate effect that the pandemic is having on people with Black, Asian, and minority ethnic backgrounds, they likely only partially explain the disparity. The unequal impact of the pandemic is explored in more detail in the final section of this submission.

# 3 The indirect impact of Covid-19 on people with heart and circulatory diseases

Covid-19 has had a profound impact on the ability and willingness of people with heart and circulatory diseases to access care and has had severe implications for their short-term risk of mortality and longer-term health. Managing the impact of the pandemic on the health service has led to significant delays in treatment and care for people with heart and circulatory diseases, leading to a parallel increase in people dying from these diseases. Further to this, limits on resources mean that many people may have received reduced levels of care and support for their condition, contributing to a growing number of people suffering from ill health beyond those needing support for Covid-19.

A BHF survey of people with heart and circulatory diseases conducted during the first peak of the pandemic showed that around half of patients had found it harder to get medical treatment since the pandemic began[8]. Of this cohort, 41% said that they had a planned test, surgery or procedure postponed or cancelled. We also know that access to specialist cardiac care in the community in that first peak was severely depleted in many areas due to redeployment of staff. Cardiac rehabilitation and heart failure services were also substantially reduced during this time, meaning many people lost the support they need to live well and remain out of hospital. Rehabilitation and heart failure services, as well as access to care in the community, play a significant role in reducing burden on hospitals and overall costs to the health service.

Many people with heart and circulatory diseases are already at increased risk of dying from Covid-19, and we strongly believe their lives should not be put at even greater risk by missing out on treatment for their condition. Decades of research means that we can save or improve the lives of people affected by heart and circulatory diseases. However, if hospital tests and treatments are delayed too long, it can result in preventable permanent long-term complications or death.

## Excess deaths from cardiovascular diseases during the pandemic

Since the first Covid-19 fatality was recorded in the UK in early March 2020, the UK has seen a significant number of excess deaths[9]. In the weeks after lockdown began, between 23rd March to 30th October, there were more than 60,000 excess

[6] Through the NIHR-BHF Cardiovascular Partnership, we are supporting flagship projects that seek to answer important questions about Covid-19 and cardiovascular health. For more information see: https://www.bhf.org.uk/for-professionals/information-for-researchers/national-flagship-projects
[7] BHF, 'Can coronavirus cause long-term damage to the heart?', *Heart Matters*, (17 August 2020), https://www.bhf.org.uk/informationsupport/heart-matters-magazine/news/behind-the-headlines/coronavirus/can-coronavirus-cause-long-term-damage-to-the-heart
[8] BHF, 'Nearly half of heart patients find it harder to get medical treatment in lockdown', (5 June 2020), https://www.bhf.org.uk/what-we-do/news-from-the-bhf/news-archive/2020/june/half-heart-patients-harder-get-medical-treatment-lockdown
[9] The number of deaths recorded above the usual level for that period.

deaths in England and Wales[10]. Around 90% of these excess deaths were associated with Covid-19, with clear evidence that people with previously diagnosed heart and circulatory diseases made up a large proportion[11].

However, there have also been avoidable excess deaths among heart patients who may not have been directly affected by Covid-19. Recent analysis by PHE of death registrations has revealed that during the first peak of the pandemic, in the worst week, there were more than 700 excess deaths from heart and circulatory diseases, including around 300 from coronary heart disease and nearly 200 from stroke[12].

Between March and October 2020, there were over 4,700 excess deaths from heart and circulatory diseases in England, around one quarter of those were associated with Covid-19[13]. More than 80% of all excess deaths occurred in the home or in a nursing home - we saw a decrease in hospital deaths caused by cardiovascular disease at the same time as an increase in deaths at home, including in people under 65 years of age. This raises questions about whether people made end of life choices to die at home when terminally ill, or whether some people were not admitted to hospital when they normally would have been. BHF analysis[14] has also shown that there was a rise in excess deaths in under-65s between March and July 2020, with almost 800 excess deaths in England in this age group. Delays in people seeking care, coupled with reduced access to routine tests and treatments during the pandemic, have contributed to the rise in excess deaths.

The BHF is concerned that excess deaths figures could worsen as the UK again faces rising numbers of Covid-19 cases and winter pressures on the NHS. These concerns are shared by the Academy of Medical Sciences, who warned in July that the disruption already created in the health service by Covid-19[15], combined with growing waiting lists and the possibility of a flu epidemic, all pose serious risks to health. We are already beginning to see local health and care services postponing planned procedures due to the significant increase in patients with Covid-19[16]. Restoring and maintaining planned cardiovascular care must remain a priority for the health service moving into winter. Over time, heart and circulatory problems will become more urgent and delaying this care could risk avoidable harm.

## Significant change in seeking help behaviour

A heart attack is a life-threatening medical emergency resulting in more than 100,000 hospital admissions a year in the UK. Thanks to decades of research, much of which was funded by the BHF, we now have treatments that mean 70% of people having a heart attack will live, and for those who make it to hospital quickly, the survival rates are significantly higher. The key to successful recovery is immediate treatment. Doctors need to be able to treat a patient quickly, opening the blocked coronary artery and restoring blood supply to the heart muscle before it becomes damaged.

We know that attendance at A&E with symptoms of heart attacks and strokes dropped significantly at the beginning of the first lockdown in March 2020. The number of people attending emergency departments in England with symptoms of

[10] Office for National Statistics, 'Deaths registered weekly in England and Wales, provisional: week ending 16 October 2020', (2020), https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/bulletins/deathsregisteredweeklyinenglandandwalesprovisional/latest#main-points
[11] PHE, 'Disparities in the risk and outcomes of Covid-19'.
[12] PHE, 'Excess mortality in England, week ending 30 October 2020'. (2020), https://fingertips.phe.org.uk/static-reports/mortality-surveillance/excess-mortality-in-england-latest.html
[13] Ibid.
[14] BHF analysis of ONS data, Weeks 11-28. (2020), https://www.bhf.org.uk/what-we-do/news-from-the-bhf/news-archive/2020/october/rise-in-excess-heart-and-circulatory-disease-deaths-in-under-65s
[15] Academy of Medical Sciences. 'Preparing for a challenging Winter 2020/21', (14 July 2020), https://acmedsci.ac.uk/file-download/51353957
[16] University Hospitals Birmingham, 'Statement on elective procedures at University Hospitals Birmingham', (10 Nov 2020), https://www.uhb.nhs.uk/news/statement-on-elective-procedures-at-university-hospitals-birmingham.htm; Manchester Evening News, 'All Greater Manchester hospital trusts suspend non-urgent care amid Covid surge', (7 Nov 2020), https://www.manchestereveningnews.co.uk/news/greater-manchester-news/greater-manchester-hospitals-suspend-non-19240896

a possible heart attack halved between the beginning and end of March[17]. This continued throughout the first lockdown period with an estimated 5,000 fewer admissions for heart attacks than expected[18].

An April 2020 BHF survey of cardiologists from across the UK largely attributed this decrease to people avoiding hospital due to fear of infection with Covid-19 or out of a desire not to burden the NHS[19]. Of those, 84% reported fewer patients were being admitted with the most critical type of heart attack known as a STEMI (ST elevation myocardial infarction). Eighty-five per cent of cardiologists who responded believed that people were afraid to visit hospital during lockdown from fear of being exposed to the virus, and 55% thought people were worried about putting pressure on an already-overburdened NHS. PHE analysis of YouGov survey data from July to September 2020 similarly shows that the primary reason people did not seek advice for a worsening health condition in England was to avoid putting pressure on the NHS.[20]

The BHF has been working closely with NHS England to urge people who experience symptoms of a heart attack or stroke to seek medical help immediately. Delays to urgent treatment could lead to patients becoming more unwell, placing greater pressure on the NHS in the long term. Patients need reassurance that the risk of getting Covid-19 by attending hospital is mitigated by systems in place to separate those needing care for Covid-19 from those that need care for something else. While there has been investment in public awareness campaigns, primarily the 'Help Us Help You' campaign, we believe the NHS and the Government must continue to ensure this message is clear. This is vital not only during periods of high levels of Covid-19 but throughout the pandemic as reluctance to access care remains a consistent theme for patients with a wide range of conditions.

In December 2020 the NHS launched a '111 First' campaign advising people to contact the NHS 111 service first for medical advice if they believe their condition is urgent, but not life threatening. The BHF is concerned that this campaign could create confusion and delays accessing care for people who need immediate attention for heart attacks and strokes. Particularly in light of continued excess deaths as a result of the pandemic, it is vital that people with heart and circulatory conditions continue to access care when they need it, and the message that the NHS is open should continue to be communicated to them alongside clear messages around what constitutes an emergency and when they should still immediately call 999.

## Postponement of tests and treatments

During the first peak of the pandemic, some tests and treatments for heart and circulatory disease patients were deferred to reduce the transmission of the virus and free up capacity in ICU for Covid-19 patients. Our survey of 1,400 people with heart and circulatory conditions in May showed that 41% had a planned test, surgery or procedure postponed during the UK lockdown. Waiting lists show that nearly 190,000 people were waiting for investigations or treatment in cardiology or cardiothoracic surgery at the end of August 2020.

Echocardiograms, an ultrasound scan of the heart, allow doctors to diagnose heart and circulatory conditions. They also help to inform follow-up treatment for a range of heart conditions, such as heart failure, heart valve disease, cardiomyopathy, and congenital heart disease. NHS England figures show completion of echocardiograms fell by around two-thirds (67%) in April and May 2020 compared with February. While June and July 2020 showed improvements,

[17] PHE, 'Emergency Department Syndromic Surveillance System: England', (1 April 2020), https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/877600/EDSSSBulletin2020wk13.pdf.pdf
[18] BHF, 'Lives at risk due to 50% drop in heart attack A&E attendances', (9 April 2020), https://www.bhf.org.uk/what-we-do/news-from-the-bhf/news-archive/2020/april/drop-in-heart-attack-patients-amidst-coronavirus-outbreak
[19] BHF, 'Why are thousands fewer people being treated for a heart attack?', *Heart Matters*, (23 April 2020), https://www.bhf.org.uk/informationsupport/heart-matters-magazine/news/behind-the-headlines/coronavirus/coronavirus-and-reduction-in-heart-attack-treatment
[20] PHE analysis of YouGov survey data, (2020), https://analytics.phe.gov.uk/apps/covid-19-indirect-effects/

completion of echocardiograms was still down nearly 40% and 20%, respectively, from February[21]. If surveillance heart imaging by echocardiography is deferred, progressive deterioration in heart function that could trigger treatment will not be identified before permanent heart damage causing heart failure has occurred. Without timely echocardiograms, and other important tests (like cardiac MRIs), patients will not get the treatment they need at the appropriate time, with implications for their outcomes and long-term health.

Delays to treatment can have serious implications for people with heart and circulatory diseases. For example, if a patient has a planned invasive procedure (such as those for implantable cardiac defibrillators, pacemakers, or percutaneous coronary interventions), or has heart valve or coronary bypass surgery deferred, they could die waiting. Likewise, if heart surgery for congenital heart disease in children or adults is deferred too long, irreversible heart damage could result in decades of avoidable disability. Such services must be safeguarded throughout the Covid-19 pandemic to ensure patients can be treated in a timely fashion, preventing premature deaths and adverse outcomes for people with heart and circulatory diseases.

Furthermore, waiting lists have already increased and are set to increase further as the NHS addresses winter pressures and increasing numbers of Covid-19 cases simultaneously. An NHS Confederation report[22] predicted waiting list numbers would double by December 2020. If this were to happen, it could leave as many as half a million people with heart and circulatory diseases waiting for NHS treatment by the end of 2020.

We also know that GPs made only a quarter of the usual number of referrals throughout March and April 2020, which suggests changes in behaviour. GPs may not be adding, or be able to add, patients to already large waiting lists, or may be managing patients' conditions in other ways in the short term. Patients may also be putting off seeking help[23]. This trend, coupled with the existing backlog of care, could have a long-lasting effect.

As the backlog of care increases, the urgency of treatment for patients who have been waiting a long time may be increasing, creating a significant cohort of patients who will need urgent care. We need a clear plan for supporting cardiovascular patients both alongside the Covid-19 pandemic and as we move beyond it. As postponed cardiac care becomes more urgent, patients should be supported to navigate the system and given guidance on how to access the appropriate services at the appropriate time. Patients with significant waiting times for tests or treatments should also have clear guidance and information on how to remain well, and who to contact for support as they wait for their appointment.

There will be a continuous tension between the direct response to the Covid-19 pandemic and ensuring that the needs of new heart and circulatory patients and the backlog of deferred patients are addressed in time to avoid suboptimal outcomes. This will include planning for a surge in heart and circulatory disease patients who were unable to access care due to resource restrictions during the first peak of the pandemic, and an increase in demand from those who need support with managing long-term conditions.

[21] NHS England, Monthly Diagnostics Data 2020-21, (2020) https://www.england.nhs.uk/statistics/statistical-work-areas/diagnostics-waiting-times-and-activity/monthly-diagnostics-waiting-times-and-activity/monthly-diagnostics-data-2020-21/
[22] NHS Confederation, 'Getting the NHS back on track: planning for the next phase of Covid-19', (10 June 2020), https://www.nhsconfed.org/resources/2020/06/getting-the-nhs-back-on-track)
[23] BHF, 'Coronavirus and the perfect storm for heart disease', *Heart Matters*, (24 July 2020), https://www.bhf.org.uk/informationsupport/heart-matters-magazine/news/coronavirus-and-your-health/coronavirus-and-the-perfect-storm-for-heart-disease

## Reduced access to primary care and specialist care in the community

Primary and community care cardiovascular services[24] have not always been available during the pandemic or have been running at reduced capacity. Redeployment of staff in response to the first wave of the pandemic affected cardiovascular services across primary, secondary and community care – for example, specialist nurses in the community were redeployed to the acute care setting, leaving patients without a clear plan on who to engage with should they need further support.

In trying to understand the pressure on the health system during the pandemic, a new BHF report focusing on the existing challenges around services designed to support those with heart failure also captured the impact of the pandemic on those services[25]. Using heart failure as a case study for what may have occurred in other areas of the health system we noted that, during the first wave of the pandemic, people with heart failure experienced significant delays to their care as the NHS adapted to the challenges of Covid-19. There are 920,000 people living with heart failure in the UK and the condition is a common cause of unplanned hospital admissions – there are more than 100,000 hospital admissions each year where heart failure is the primary diagnosis, and admissions have risen by nearly a third in the past five years[26].

Increased demand for services at a time when the health and care system has had to maintain social distancing measures has resulted in a significant amount of routine care and treatment being postponed. This includes routine appointments that allow for review of a patient's condition, providing opportunities for medication optimisation, and access to treatments to prevent exacerbations. This has not only led to delays in care but also means there is now a backlog of care for systems to deal with as we move towards winter. This could lead to more hospital admissions, extra demand on hospitals and greater pressure on primary and community care services that are already preparing for a second wave of coronavirus.

System leaders should prioritise increasing capacity to support people with chronic conditions, such as angina and heart valve disease, across all aspects of the health system. Many people with chronic heart conditions live with multiple other conditions, so continued support to address their complex needs will be vital to prevent their condition from deteriorating. This will play a crucial role in improving outcomes for patients, as well as providing the support needed to keep people out of hospital.

Where possible these services should be delivered remotely, but where face to face interaction is needed, systems should continue to be in place to separate patients needing Covid-19 care from those that do not, minimising the risk of Covid-19 transmission and increasing patients' confidence in safely accessing care. Such services will help mitigate a surge in demand on secondary care from patients who have been unwilling or unable to access care for their condition during lockdown. Increased use of Covid-protected hospitals and clinics - or areas within these - that are free from patients who have tested positive for Covid-19, will also help build the confidence of patients to access the care they need.

## Impact on recovery and support services

Cardiac rehabilitation reduces the risk of death from heart and circulatory diseases and the risk of hospitalisation[27]. These services have been severely impacted by Covid-19, with many teams being redeployed and face-to-face care stopped for the foreseeable future due to social distancing measures. Insight collected from cardiac rehabilitation teams during

[24] Community health services provide a range of care from supporting patients to manage long-term conditions, to treating those who are seriously ill with complex conditions. Most community healthcare takes place in people's homes, often coordinated by teams of nurses and therapists working with professions such as GPs and social care. For more information see: https://www.nhsconfed.org/-/media/Confederation/Files/public-access/guide_community_services.pdf

[25] BHF, 'Heart failure: a blueprint for change', (2020), https://www.bhf.org.uk/blueprint

[26] BHF analysis of latest UK hospital data (NHS Digital, Public Health Scotland, NHS Wales Informatics Service & Northern Ireland Hospital Information Branch).

[27] Lindsey Anderson et al. 'Exercise-based cardiac rehabilitation for coronary heart disease. Cochrane Database of Systematic Reviews (2016), Issue 1. Art. No.: CD001800, https://doi.org/10.1002/14651858.CD001800.pub3

the first peak of the pandemic described a decrease in services, with some areas implementing virtual-only options and others losing their services altogether[28]. This reduction has not been consistent across the country and has exacerbated existing regional variation in services. Although the move to digital platforms has been welcomed by some patients, these should be used to complement care and improve patient choice where appropriate. As set out in a September 2020 report by the Good Things Foundation[29], there are around 9 million people in the UK who cannot access the internet independently – that is around one in six. The coronavirus pandemic has further amplified the existing digital divide. As service providers begin to restore services and plan for the future, they should not assume they can address all needs by simply replacing all face-to-face services with digital solutions.

Guidance from NHS England and NHS Improvement (NHSE/I), published early during the first wave, recommended against inpatient assessments for cardiac rehabilitation following percutaneous coronary intervention (PCI)[30], which means a significant number of patients who normally should and would have been able to access cardiac rehabilitation may have left hospital with limited support. This includes the loss of one-to-one consultations and group-based support, as well as support to self-manage and optimise medications. Importantly, services have lost the ability to clinically assess patients in person. The BHF is concerned that psychological distress and ongoing cardiac issues are less likely to be identified and managed, which could have implications for readmission rates and the subsequent burden on the system.

The combination of people presenting late with the symptoms of heart attacks, the build-up of patients with postponed secondary care appointments for cardiac investigations and treatments, combined with a lack of primary care and in-home heart failure and rehabilitation services, could lead to worse outcomes for patients who are likely to develop chronic conditions, such as arrhythmias, that can require life-long support.

Prior to Covid-19, uptake of cardiac rehabilitation programmes was poor (~50%), and was even worse amongst certain groups including women, those with a Black, Asian, or minority ethnic background, and socioeconomically deprived groups[31]. In the long term, it will be important to maintain digital offerings alongside face-to-face forms of rehabilitation to improve choice for patients and help increase uptake of services, particularly among poorly represented groups. Clinical bodies should work with British Association for Cardiovascular Prevention and Rehabilitation (BACPR) to define when group-based sessions can safely resume, and these should be brought back as early as possible to complement digital offerings.

## Support for vulnerable groups

The insight we have been gathering throughout the pandemic from email queries and telephone calls to our Heart Helpline, and through surveys, has highlighted the significant impact of Covid-19 on people with heart and circulatory diseases. We know the lockdown in spring of 2020 was an incredibly challenging time for many people with heart and circulatory conditions, and we are urging the Government to ensure that better support is in place for people at higher risk from coronavirus as we enter the next phase of the pandemic and a series of new national and regional lockdowns.

During the first wave of coronavirus, people with selected serious heart and circulatory conditions were advised to shield. This included people who have received a heart transplant, pregnant women with significant heart disease, and other people with heart and circulatory diseases who had been advised to shield by their doctor. In England, national advice to shield came to an end on 31 July, but was restarted on 5 November, initially for four weeks. The updated shielding guidance for November 2020 was more comprehensive than previously, which we welcomed, but given that the bulk of

[28] BHF insight from Health Service Engagement team (17th March – 4th May).
[29] The Good Things Foundation, 'Digital Inclusion in Health and Care: Lessons learned from the NHS Widening Digital Participation Programme (2017-2020)', (September 2020), https://www.goodthingsfoundation.org/research-publications/digital-inclusion-health-and-care-lessons-learned-nhs-widening-digital
[30] A procedure used to widen blocked or narrowed coronary arteries (the main blood vessels supplying the heart).
[31] BHF, National Audit of Cardiac Rehabilitation (NACR) Quality and Outcomes Report 2019, https://www.bhf.org.uk/informationsupport/publications/statistics/national-audit-of-cardiac-rehabilitation-quality-and-outcomes-report-2019

additional support was delivered by local councils, we are concerned that variations in local offers may have amplified existing inequalities.

Many people with heart and circulatory diseases have not been placed on the Shielded Patients List (SPL), but are classed as clinically vulnerable to Covid-19. Guidance for the clinically vulnerable group (that includes people with chronic heart diseases, such as heart failure) remains poorly defined. While the general national guidelines recognise this group is more at risk from coronavirus, they are not entitled to any additional support and important questions about whether they are safe to return to work remain unanswered. Clinically vulnerable people, including those with heart conditions, are now being advised to follow national guidelines especially carefully and minimise contact with others.

As we move towards a more personalised approach to measuring risk in the winter the composition of the SPL could change. We have been informed that a risk stratification tool is currently being developed that will use data to predict those at highest risk of serious illness from Covid-19. As we understand it, the tool could be used in a number of health and care settings, including supporting GPs and specialists in consultations with their patients to provide more targeted and individualised advice based on individual levels of risk. The introduction of this tool could have implications for those with heart and circulatory diseases, for example some people with heart and circulatory conditions could newly qualify for inclusion on the SPL. It is vital that healthcare professionals are equipped to have discussions with patients that effectively communicate any changes to their personal risk from Covid-19, the reasons for this, and how this compares with other health risks.

In response to the surge in demand for evidence-based information and support, both from the public at large and people living with heart and circulatory diseases, the BHF has significantly expanded the information it makes available to support the public. This includes:

- Increasing the hours and staffing levels of our Heart Helpline, including options to chat online, email, or speak directly with our cardiac nurses on the phone. People with heart and circulatory diseases can also get answers about coronavirus anytime using our helpline chatbot, which they can also use to request a nurse call back.
- Creating a dedicated Coronavirus hub on our website containing information and tools for patients and carers, regularly updated as new guidance is issued or research findings published. Alongside this, we have also produced a Coronavirus hub signposting the latest information and resources to support allied healthcare professionals.
- Developing support materials for people to engage in online physical activity and online cardiac rehabilitation. We also held webinars with the cardiac rehabilitation community to help them prepare for new approaches and to share learning.
- Maximising our peer support networks, such as Health Unlocked, an online support network and community for people living with heart and circulatory disease, as well as Teen Heart and One Beat, which are BHF-led communities of young people with heart and circulatory diseases.

There is a clear appetite from the public for this information – in the first week of the first lockdown (23-29 March 2020), the number of calls to our Heart Helpline increased by 400%. Equally, our Coronavirus hub had 3.1 million page views between 1 February and 11 November 2020[32].

## The impact of Covid-19 on the mental health of people with heart and circulatory diseases

Heart and circulatory diseases take an emotional and psychological toll. Before the Covid-19 pandemic, around one third of adults with certain heart and circulatory conditions also had a diagnosed mental health condition:

[32] Data from 1st February – 11th November

- Nearly one third of adults in the UK with coronary heart disease had anxiety or depression.
- One third of adults in the UK who suffered from a stroke also experienced anxiety or depression[33].

In addition to cardiovascular patients clinically diagnosed with a mental health condition, many more people with heart and circulatory conditions self-report poor psychological health. A 2018 report commissioned by the BHF found that 58% of respondents to an online survey said they had experienced feeling sad, down, or depressed, and 59%[34] said they had experienced feelings of anxiety or uncertainty about the future. Feeling isolated or lonely was strongly correlated with these feelings. Almost a quarter (24%) of respondents stated that they had a moderate or high need for support with feeling down, sad, or depressed. A similar number of respondents (23%)[35] had moderate or high need for help with anxiety, fear, or uncertainty about the future. The findings of this survey should not be considered to be representative of the whole population of people with heart and circulatory diseases, as it was self-selecting and does not take account of geography. But when taken with the data around clinically diagnosed mental health conditions, it speaks to the significant psychological difficulties experienced by many people with heart and circulatory conditions.

The mental health implications of heart and circulatory disease are serious. Poor emotional wellbeing can hamper a person's ability to self-manage their condition and can increase adverse health behaviours (including physical inactivity and smoking), which can contribute to the progression of heart and circulatory diseases[36]. The current situation is likely to be exacerbating existing psychological difficulties and may be causing additional stress and anxiety as people with heart and circulatory conditions face cancelled or postponed medical tests and treatments, and difficult decisions around returning to work.

Our May 2020 survey of people with heart and circulatory disease quantified some of the challenges the coronavirus pandemic has posed. Of the 1,409 people surveyed, 52% of women aged 35-54 reported feeling stressed and 31% reported feeling scared. These figures correlate with the general mental health impact of the pandemic. A study by Mind[37], published in July 2020, found that more than half of adults said that their mental health had got worse during the period of lockdown restrictions, from early April to mid-May.

Both Mind and the British Red Cross[38] have identified loneliness as a key contributor to poor mental health during the pandemic. This is reflected in our insight. In November 2020, the BHF carried out a focus group with 27 people with heart and circulatory conditions. Feelings of loneliness and isolation were reported by several participants, especially those who had been shielding (either by personal choice, or as advised to by a healthcare practitioner because they had been placed on the SPL). Several participants told us that shielding was having a greater impact on their mental health during the second phase of the pandemic, than it had during the first phase in spring 2020, in part because the cold winter months made it more difficult to spend time outside. As one participant put it, 'the idea of being stuck inside is miserable'. Some participants described experiencing episodes of depression related to shielding, and many of them told us they felt lonely. Participants told us that the cold weather and dark nights were making it more difficult to see friends and relatives in a socially distanced manner, which left them feeling 'a bit isolated and lonely'. Some participants described extremely limited social interactions over the course of the pandemic. One man in London said he said only seen friends and relatives (socially distanced) around five times since March 2020.

---

[33] BHF analysis of 2015 THIN data.
[34] Picker, 'Exploring the challenges and needs of people affected by cardiovascular disease: a report prepared for the BHF', (2018).
[35] Ibid.
[36] The King's Fund, 'Long-term conditions and mental health: the cost of co-morbidities', (February 2012), https://www.kingsfund.org.uk/sites/default/files/field/field_publication_file/long-term-conditions-mental-health-cost-comorbidities-naylor-feb12.pdf
[37] Mind, 'The mental health emergency: how has the coronavirus pandemic impacted our mental health?', (June 2020), https://www.mind.org.uk/media-a/5929/the-mental-health-emergency_a4_final.pdf
[38] The British Red Cross, 'Life after lockdown: tackling loneliness among those left behind', (2020), https://www.redcross.org.uk/about-us/what-we-do/we-speak-up-for-change/life-after-lockdown-tackling-loneliness

As we enter a challenging winter period and a reintroduction of lockdowns and shielding in some parts of the UK, it will be important for health and care services to recognise the impact these measures may have on the mental health of the population. Though the solutions will not be simple, the impact of lockdowns and shielding on the mental health of people with heart and circulatory diseases can be mitigated by ensuring that patients who clinically need it have access to mental health support services at all points of the pathway, including when they are waiting for care.

The Covid-19 pandemic has also taken an emotional toll on NHS staff and placed many under intense pressure. The mental health of NHS staff prior to the pandemic was already under strain, with the most recent NHS Staff Survey indicating high levels of staff stress and burnout. In the decade preceding the pandemic, symptoms of anxiety and depression were reported in between 17 to 52% of doctors[39], with potentially higher levels among nurses[40]. The pandemic has created new sources of stress, for example in relation to the provision of personal protective equipment, unclear infection control policies, redeployment, and new ways of working (for example remote consultations). It is vital that the NHS workforce receives the psychological support they need to stay well. The BHF welcomes the recent strengthening and increased funding for mental health support for NHS staff and we are urging the Government and NHS to build on this to maintain a resilient workforce and support them in this difficult time.

# 4 Inequalities in heart and circulatory disease

Cardiovascular disease (CVD) causes a quarter of all deaths in the UK and are the largest cause of premature mortality in deprived areas. There are more than seven million people living with heart and circulatory diseases in the UK today. Many millions more have risk factors for these conditions such as high blood pressure, raised cholesterol, obesity, and type 2 diabetes.

CVD is strongly associated with health inequalities. This is because cardiovascular health is deeply connected to and impacted by wider determinants of health, in other words the conditions that drive inequality, including factors such as income, housing, education, and the environment. While CVD comprises a large proportion of the health burden on the nation, cardiovascular health is determined in part by a range of modifiable factors. In the UK, 4 in 5 cases of heart and circulatory disease in the can be attributed to modifiable risk factors, such as diet, smoking status and medically manageable risk factors like high blood pressure. These factors are often influenced by access to health and care services and the social, physical, and economic environments in which people live that have an impact on our choices, behaviours, and exposure to risk. For example, food advertising and promotion has been shown to influence children's food preferences,[41] as well as how much they eat,[42] which has a bearing on their dietary health, while pollution sources and higher concentrations of ambient air pollution are typically found in more socioeconomically disadvantaged areas[43].

Many heart and circulatory diseases can be therefore prevented through systemic action that addresses inequities in the wider determinants of health, including:

- Population level health measures, such as initiatives designed to address smoking, obesity, inactivity, diet, and air pollution.

[39] Udemezue O. Imo, 'Burnout and psychiatric morbidity among doctors in the UK: a systematic literature review of prevalence and associated factors', *BJPsych Bulletin*, 41, 4 (2017) pp. 197-204, https://doi.org/10.1192/pb.bp.116.054247
[40] Panagiota Koutsimani et al. 'The relationship between burnout, depression, and anxiety: a systematic review and meta-analysis', *Frontiers Psychology*, (13 March 2019), https://doi.org/10.3389/fpsyg.2019.00284
[41] Public Health England, 'Sugar Reduction: the evidence for action', (October 2015), https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/470179/Sugar_reduction_The_evidence_for_action.pdf
[42] Emma J. Boyland et al. 'Advertising as a cue to consume: a systematic review and meta-analysis of the effects of acute exposure to unhealthy food and nonalcoholic beverage advertising on intake in children and adults', *The American Journal of Clinical Nutrition*, 103, 2 (2016) pp. 519-533, https://doi.org/10.3945/ajcn.115.120022
[43] Annual Report of the Chief Medical Officer, 'Health Impacts of All Pollution – what do we know?' (2017) ch.6, p.2, https://www.gov.uk/government/publications/chief-medical-officer-annual-report-2017-health-impacts-of-all-pollution-what-do-we-know

- Social, environmental, and economic changes that support equity, for example in relation to education, employment, and housing.

## Pre-existing inequalities in heart and circulatory disease

Over the past twenty years, mortality rates attributable to CVD have declined significantly. However, these declines have not been realised equitably across all population groups, and CVD remains a leading cause of mortality and morbidity in the UK. Inequalities in CVD manifest in many ways:

### Socioeconomic status and deprivation

Socioeconomic status is a powerful predictor of premature mortality from heart and circulatory disease, and the development of its risk factors. People living in England's most deprived areas are more than three times more likely to die prematurely of CVD than those in the least deprived area. For example, between 2016-18 the average premature (under 75 years) death rate for Blackpool (124.6 per 100,000) was more than three times higher than that for Hart, Hampshire (39.1 per 100,000). There are also striking differences in life expectancy according to socioeconomic status. Between 2016-18, the average life expectancy in the most deprived area in England, Blackpool, was 77. In Hart, the least deprived area, it was 84[44]. As well as living, on average, shorter lives, the evidence is clear that economically disadvantaged communities are affected by a range medically manageable risk factors. For example, those in the most deprived communities in England are 30% more likely to have high blood pressure, which is the biggest single risk factor for heart attack and stroke[45].

### Ethnicity

There are recognised differences in cardiovascular risk factors between different ethnic groups. People with certain minority ethnic backgrounds living in the UK may be more likely to develop CVD than the majority White population. For example, research has shown that people with South Asian (including people of Indian, Pakistani, Bangladeshi, or Sri Lankan) background may be more likely to develop coronary heart disease than White Europeans, and some risk factors for coronary heart disease are also more prevalent in younger South Asians[46]. People with Black African or African Caribbean background may be at higher risk of developing high blood pressure (hypertension) and having a stroke[47]. Finally, people with Black African, African-Caribbean and South Asian background more commonly have type 2 diabetes than the rest of the population.

### Gender

The BHF's Bias and Biology briefing[48], published in 2019, showed that the gender gap in CVD is costing women's lives. Coronary heart disease kills twice as many women as breast cancer in the UK, but there is a widespread misconception that it is a man's disease. Research suggests that women are 50% more likely than men to receive the wrong initial diagnosis for a heart attack. Women may also be less likely to recognise they are having a heart attack, leading them to delay seeking help.

---

[44] ONS dataset, 'Life expectancy at birth and at age 65 by local areas, UK', (11 December 2019), https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/healthandlifeexpectancies/datasets/lifeexpectancyatbirthandatage65bylocalareasuk

[45] PHE, 'Health matters: ambitions to tackle persisting inequalities in cardiovascular disease', *Public Health Matters*, (4 March 2019), https://publichealthmatters.blog.gov.uk/2019/03/04/health-matters-ambitions-to-tackle-persisting-inequalities-in-cardiovascular-disease/#:~:text=Cardiovascular%20disease%3A%20A%20major%20cause%20of%20health%20inequalities&text=For%20example%2C%20those%20in%20the,for%20heart%20attack%20and%20stroke.

[46] BHF, 'South Asian Background', https://www.bhf.org.uk/informationsupport/risk-factors/ethnicity/south-asian-background

[47] BHF, 'African and African Caribbean background', https://www.bhf.org.uk/informationsupport/risk-factors/ethnicity/african-and-african-caribbean-background

[48] BHF, 'Bias and Biology', (2019), https://www.bhf.org.uk/informationsupport/heart-matters-magazine/medical/women-and-heart-disease/download-bias-and-biology-briefing

### Learning disability

People with learning disabilities are disproportionately affected by heart and circulatory diseases. The prevalence of heart failure, stroke, and transient ischemic attack in adults with learning disabilities in England is higher than the general population[49]. Circulatory diseases are one of the main causes of death in people with learning disabilities[50]. Though there are some specific heart conditions linked to learning disabilities (for example, almost half of people with Down's syndrome are affected by congenital heart defects), for the most part the poorer cardiovascular health of people with learning disabilities can be attributed to differences in the social determinants of health. Research by PHE[51] has found that people with learning disabilities experience pervasive socioeconomic inequalities. For example, they are less likely to be socially active or 'living comfortably' than the general population. When socioeconomic factors and opportunities for social participation in the local environment are allowed for, the odds of people with learning disabilities being disproportionately impacted by CVD and its risk factors drops significantly. For example, PHE found that the odds of having diabetes dropped from 3.9 to 2.4, and the odds of having obesity dropped from 2.1 to 1.7.[52]

## The unequal impact of Covid-19

The coronavirus pandemic has amplified pre-existing inequalities in heart and circulatory diseases, particularly in relation to socioeconomic deprivation and ethnicity. People who live in deprived areas have higher diagnosis and death rates for Covid-19 than those living in less deprived areas. The mortality rates from Covid-19 in the most deprived areas are more than double the least deprived areas, for both males and females[53]. The disproportionate impact on people with Black, Asian, and minority ethnic backgrounds is also worrying. Around a third (34%) of confirmed cases of Covid-19 and 32% of deaths in intensive care are amongst people with Black, Asian, Mixed or Other backgrounds, according to statistics from the Intensive Care National Audit and Research Centre (covering England, Wales and Northern Ireland)[54]. This compares with 14%[55] of the total population whose ethnic background is minority in the UK.

As set out in the PHE review[56] published in the summer, there are disparities in two key areas: risk and outcomes. People with minority ethnic backgrounds and people from socioeconomically disadvantaged backgrounds have a disproportionate exposure to risk of contracting coronavirus and, if infected, they are also more likely to develop severe Covid-19 illness. Consequently, death rates among these demographic groups are disproportionately high. The reasons for this disparity are complex but can be largely attributed to existing social and economic inequalities. Earlier this year Professor Michael Marmot published a report[57] demonstrating the ways in which health inequalities have widened over the last decade. Many of the inequalities captured in the Marmot report have been amplified by the pandemic. For example:

- Across all socioeconomic groups, people with minority ethnic backgrounds are more likely to live in overcrowded housing. Though there may be some health and wellbeing benefits in terms of reduced social isolation, overcrowding poses significant health risks in the context of the pandemic. For example, overcrowded conditions are likely to make self-isolation more difficult and increase opportunities for household transmission.
- Socioconomic disadvantage is strongly associated with the prevalence of obesity, type 2 diabetes, hypertension and their cardio-metabolic complications, which all increase the risk of Covid-19 disease

[49] Iain M. Carey, 'Health characteristics and consultation patterns of people with intellectual disability: a cross-sectional database study in English general practice', *British Journal of General Practice*, 66, 645 (2016) pp. e264-e270, https://doi.org/10.3399/bjgp16X684301
[50] Lisa O'Leary et al. 'Early death and causes of death of people with intellectual disabilities: a systematic review', *Journal of Applied Research in Intellectual Disabilities*, 31, 3 (2018) pp. 325-342, https://doi.org/10.1111/jar.12417
[51] PHE, 'Health inequalities and the "hidden majority of adults with learning disabilities', *Public Health Matters*, (4 October 2016), https://publichealthmatters.blog.gov.uk/2016/10/04/health-inequalities-and-the-hidden-majority-of-adults-with-learning-disabilities/
[52] Ibid.
[53] PHE, 'Covid-19: review of disparities in risks and outcomes'.
[54] BHF, 'Why are so many people of ethnic minority background dying from coronavirus?', *Heart Matters*, (6 November 2020), https://www.bhf.org.uk/informationsupport/heart-matters-magazine/news/behind-the-headlines/coronavirus/coronavirus-and-bame-patients
[55] BHF analysis of ACORN 2019 estimates.
[56] PHE, 'Covid-19: review of disparities in risks and outcomes'.
[57] Michael Marmot et al, 'Health equity in England: The Marmot Review 10 years on', (February 2020), https://www.health.org.uk/publications/reports/the-marmot-review-10-years-on

severity. PHE's review[58] of the disparities in the risk and outcomes of Covid-19 found that diabetes was mentioned on 21% of death certificates where Covid-19 was also mentioned. The review also highlighted that this proportion was higher in Black and Asian groups when compared to White ethnic groups – standing at 43% in the Asian group, and 45% in the Black group[59]. Similar disparities were observed for hypertensive disease.

- When it comes to work the pandemic has also created new axes of inequality, for example in relation to who is able to work from home. People with economically disadvantaged and minority ethnic backgrounds are over-represented in essential frontline roles, both within the NHS and other public-facing roles like retail and transport, that increase the risk of exposure to coronavirus.

When it comes to ethnicity-related inequalities in Covid-19, it is also important to consider the impact of structural racism and racial discrimination. There are deeply entrenched ethnicity-related inequalities in health in the UK, as set out in the section on pre-existing ethnic inequalities in CVD above. In addition, there is extensive evidence that illustrates how racism, operating at structural, institutional, and interpersonal levels, is prevalent in the UK and impacts people's lives. Numerous academic studies and political reviews[60] in the UK have shown discrimination occurring in the areas that are related to the socioeconomic factors that put people at greater risk of Covid-19, including hiring processes, education, housing, criminal justice, and healthcare. In addition to its impact on the social determinants of health – the conditions in which people live, work, grow, and age – racism also has a direct impact on health. There is ample evidence showing that racism is bad for health. Racism and racist discrimination set in train a stress response that can produce short-term damage to mental health and long-term damage to physical health, including cardiovascular health. The American Heart Association published a new presidential advisory[61] in November 2020 setting this out in the context of the United States (US). It states that structural racism is a fundamental cause of persistent disparities in CVD in the US. Racism also negatively shapes the lives and opportunities of people with Black, Asian, and minority ethnic backgrounds in the UK. A 2007 briefing by the Race Equality Foundation[62] found that people with minority ethnic backgrounds have a worse experience of healthcare than the White majority population in the UK. This includes both access to and interactions with health services. Recognising and addressing the impact of racism on health is crucial to effectively reducing ethnicity-related health inequalities, including those linked to the Covid-19 pandemic.

Many existing health conditions, including risk factors for heart and circulatory diseases such as high blood pressure, obesity and type 2 diabetes, predispose people to experience severe complications from Covid-19. It is well-established that socioeconomically disadvantaged groups and people with certain ethnic backgrounds are at greater risk of developing some heart and circulatory diseases, as described above. But pre-existing disparities in the burden of existing health conditions, like heart and circulatory diseases and their risk factors, do not provide a full explanation for the disproportionate impact of the pandemic. It is instead likely that longstanding inequalities in social, environmental, and economic conditions, as well as the propensity for frontline roles to be filled by minority ethnic and socioeconomically disadvantaged workers, place certain demographic groups at a higher risk of infection and poor outcomes from Covid-19. And when it comes to ethnicity-related inequalities in Covid-19, there is no doubt that these have been driven at least in part by structural racism[63].

**We would welcome the opportunity to discuss this submission. For more information please contact Natasha Feiner, Policy Officer (Health and Care Systems), British Heart Foundation, (feinern@bhf.org.uk).**

---

[58] PHE, 'Covid-19: review of disparities in risks and outcomes', pp. 7-8.
[59] Ibid.
[60] This piece in the Conversation outlines much of this work. James Nazroo and Laia Bacares, 'Racism is the key to understanding ethnic inequalities in Covid-19 – despite what the UK government says', *The Conversation*, (27 October 2020), https://theconversation.com/racism-is-the-key-to-understanding-ethnic-inequalities-in-covid-19-despite-what-uk-government-says-148838
[61] Keith Churchwell et al. 'Call to action: structural racism as a fundamental driver of health disparities', *Circulation*, published ahead of print 10 November 2020, https://www.ahajournals.org/doi/10.1161/CIR.0000000000000936
[62] Race Equality Foundation, 'Ethnic inequalities in health: the impact of racism', (March 2007), https://raceequalityfoundation.org.uk/wp-content/uploads/2018/03/health-brief3.pdf
[63] IPPR, 'Ethnic inequalities in Covid-19 are playing out again – how can we stop them?', (19 October 2020), https://www.ippr.org/blog/ethnic-inequalities-in-covid-19-are-playing-out-again-how-can-we-stop-them; Baroness Doreen Lawrence, 'An Avoidable Crisis'; https://www.lawrencereview.co.uk/; Keith Churchwell et al. 'Call to action: structural racism as a fundamental driver of health disparities'.