March 2022

British Heart Foundation briefing:
Addressing inequalities across the cardiovascular disease pathway in the Health Disparities White Paper

Key points

Cardiovascular disease (CVD) is a major driver of health inequalities, and accounts for around a quarter of the life expectancy gap between deprived and affluent communities in England. Addressing the inequalities in these diseases and their risk factors (notably smoking, obesity, and high blood pressure), must therefore be a central focus of the Health Disparities White Paper.

The White Paper must include:

1. Bold action to address cardiovascular risk factors

There is a clear relationship between areas of high deprivation and prevalence of risk factors such as smoking and obesity. Addressing these risk factors will therefore be essential for reducing inequalities in healthy life expectancy. This requires bold action including tougher measures to drive reformulation of less healthy food, and a polluter-pays levy on the tobacco industry.

2. Adequate funding for prevention services

Smoking cessation and weight management services provide vital support to people at risk of heart and circulatory diseases. Provision of these services is not universal due to cuts to the Public Health Grant, which have disproportionately affected more deprived areas. An uplift of at least £1.4 billion will be needed to restore the Public Health Grant to its historical value, with equitable distribution to ensure that support is targeted proportionally to areas of greatest need.

3. Leveraging the role of the NHS in tackling CVD-related health inequalities

Key health services like high blood pressure detection and cardiac rehabilitation are not always reaching those who need them most. The White Paper must commit to providing NHS services with the tools and resources they need to maximise engagement with people who are currently the most underserved by the health system.

4. Action to diversify research and harness data to ensure everyone benefits from advances in health

A lack of representation of some populations in health research and datasets contributes to some groups being prevented from experiencing the benefits of research innovations and accessing high quality care. The White Paper should set out plans to improve the inclusion of underrepresented groups in all forms of research, with leadership from the National Institute for Health Research (NIHR) and UK Research and Innovation (UKRI).

About the British Heart Foundation (BHF)

The British Heart Foundation (BHF) is the largest independent funder of research into heart and circulatory disease and the third largest charitable funder of medical research in the UK. Each year, thanks to the generosity of our supporters, we aim to fund around £100 million of new research across the UK. The research we fund has helped halve the number of people dying annually from heart and circulatory conditions since the 1960s. Despite these breakthroughs, our work is not done as there are still more than 7 million people living with heart and circulatory diseases in the UK and these diseases cause more than a quarter of all UK deaths each year.

Cardiovascular diseases and health inequalities

Heart and circulatory diseases are strongly associated with health inequalities, contributing to around a quarter (26%) of the life expectancy gap between the most and least deprived quintiles in men, and 22% of the gap in women (figure 1).[i] They are also a significant contributor to lower healthy life expectancy in deprived areas. Commitments to tackling cardiovascular health inequalities have been made repeatedly over the past two decades. However, over the same period, the significant

gap in mortality and morbidity from cardiovascular diseases between the UK's most and least deprived communities has, remained stagnant. Moreover, there are concerns that increased waiting lists caused by the pandemic could lead to increased CVD mortality and morbidity in the future,

Bold action on cardiovascular disease must, therefore, be central to the Government's ambitions set out in the recent Levelling Up White Paper. Specifically, to improve healthy life expectancy by five years by 2035 and narrow the gap between areas where this is highest and lowest by 2030. Bold action is also critical to plans to build back better in the wake of the Covid-19 pandemic. Given the many social determinants of ill health, the Health Disparities White Paper should set out comprehensive, cross-department action to reduce health inequalities. We are therefore pleased to note the inception of the Health Promotion Taskforce, and look forward to more detail on its priorities and activity. A multi-pronged approach is needed, consisting of both 'quick wins', and longer-term policies which focus on every stage of the patient pathway, including research, prevention and care.

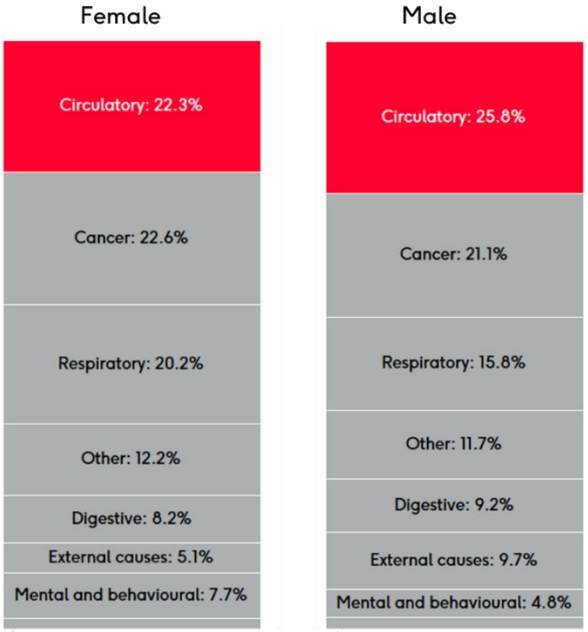

Figure 1. Percent contribution to life expectancy gap between the most deprived quintile and least deprived quintile of England, by condition, 2015-17

What the BHF would like to see in the Health Disparities White Paper

1. Bold action to address cardiovascular risk factors

In the UK, 80% of the heart and circulatory disease burden can be attributed to modifiable risk factors, such as diet, smoking status and medically manageable risk factors like high blood pressure.[ii] These factors are influenced by access to health and care services and the social, physical, and economic environments in which people live. There is often a clear relationship between these risk factors and deprivation. For example, the 2020-21 National Child measurement programme found that 33.8% of Year 6 children living in the most deprived areas in England were living with a BMI classed as obese compared to 14.3% of those living in the least deprived areas.[iii]

Moreover, the Marmot Review noted that in 2010, approximately half the difference in life expectancy between the richest and poorest in society could be attributed to smoking.[iv] In 2019, adult smoking prevalence in Great Yarmouth an area of high deprivation, was 23 per cent, compared to 6 per cent in Hart, an area of low deprivation.[v]

Compared to policies that consider health an issue of personal responsibility, population-level measures to address risk factors such as obesity and smoking have been shown to be more equitable and effective, removing barriers to behaviour change that require substantial personal agency and

resource.[vi] The White Paper should therefore outline bold population-level action to address these risk factors, including:

- Fulfilling all the commitments made in the 2020 obesity strategy, including those around the advertising and promotion of less healthy foods;
- Tougher measures on industry to drive reformulation of foods high in salt and sugar; and
- Introducing a polluter pays levy on the tobacco industry, to raise funds for much-needed tobacco control measures

2. Adequate funding for prevention services

As well as these population-level changes, additional targeted support is needed for people living with risk factors. Currently, however, vital public health services, including those for weight management and smoking cessation, are not available to everyone who needs them. These services are cost-effective and have significant benefits – on average, success rates are three times as high for smokers using Stop Smoking Services than for those trying to quit without this support, and it is estimated that for every £1 invested in Stop Smoking Services, £2.37 will be saved on treating smoking-related diseases and reduced productivity.[vii]

Local Public Health Services are primarily funded by the Public Health Grant, which has fallen by 24% in real terms since 2015/16.[viii] This cut has not been felt evenly, however. Almost £1 in every £7 cut from public health services between 2014/15 and 2019/20 has come from England's ten most deprived areas- compared to just £1 in every £46 in the country's ten least deprived places,[ix] where need is greatest.

Therefore, the Health Disparities White Paper must commit to ensuring adequate, equitable and sustainable public health funding. An uplift of at least £1.4 billion will be needed to restore the Public Health Grant to its historical value, and this must be targeted to where it is most needed.[x]

3. Leveraging the role of the NHS in tackling CVD-related health inequalities

As the NHS begins to recover services in the wake of the pandemic, it has a significant opportunity to do more on prevention and tackling health inequalities while also embedding new reforms that can deliver value for money. Investing in specific, proven actions to prevent and improve the management of high-risk conditions for CVD can be a central vehicle for capitalising on that opportunity, delivering benefits that matter to patients – extra years of life, extra years spent in good health, and extra years in productive work.

The NHS Long Term Plan recognised that action on CVD was the 'single biggest area where the NHS can save lives' and it made the prevention of 150,000 heart attacks, strokes, and dementia cases a cornerstone of its vision for the future. Prior to the pandemic, cardiovascular services were already under immense pressure, with significant unwarranted variation across the whole patient pathway. The pandemic has exacerbated these pre-existing issues and undermined the progress services were making towards those national ambitions for CVD.[xi]

Millions of heart patients have now been unable to access care, over 290,000 are on an NHS waiting list for a heart test or procedure[xii], and in the first year of the pandemic alone there were over 5,800 non covid-related 'excess deaths' due to heart and circulatory disease.[xiii] We are now at a point where six decades of progress against death and disability from heart disease could start to reverse unless decisive action is taken.

The health system's path to recovery and future direction of travel has already been outlined in various plans and in the Health and Care Bill. With the publication of the NHS Long Term Plan refresh due out in the next several months, we expect to see the Secretary of State's commitment 'to push the entire health and care system on the prevention of cardiovascular disease' outlined in more detail.[xiv] This White Paper must support that effort, with a targeted focus on enabling the NHS to address CVD-related health inequalities.

A greater focus on engagement with the most underserved groups across CVD prevention and management

Positively, when it comes to CVD prevention and management, we already know 'what works' and there are pockets of excellent practice across the system. Additionally, due to the recently published inaugural CVDPREVENT data audit of primary care records, we now have a much better understanding of the variation that exists in the identification, diagnosis, and management of people at risk of CVD across dimensions of potential health inequity (for example, age, sex, and ethnicity).[xv] This data shows us that good practice isn't evenly spread, and services aren't always available to everyone who needs them – a trend that the pandemic has greatly exacerbated.

To address those inequities and make good use of the wealth of data we already have, we now must see a greater focus on ensuring that the CVD interventions that we already know work well are engaging with the most underserved groups across the patient pathway. As illustrative examples of where we most want to see progress, we briefly discuss blood pressure management and cardiac rehabilitation in the below.

High blood pressure (hypertension)

- High blood pressure is the leading modifiable risk factor for heart and circulatory diseases in the UK and is associated with around 50% of heart attacks and strokes. High blood pressure is also associated with inequality – it is 30% more likely among people living in the most deprived areas of England compared to the least deprived.
- The pandemic has devastated hypertension diagnosis and management, with millions of patients with hypertension now not being managed to target. If these patients are not found, and treatment commenced or corrected, we expect to see thousands more heart attacks and strokes over the next three years. These are avoidable.
- We support the Core20PLUS5 approach – a new national NHS England and NHS Improvement approach to support the reduction of health inequalities, which identifies hypertension case finding as a key clinical priority.[xvi] But we also need to see more targeted management and support for disadvantaged and marginalised groups who have already been diagnosed with high blood pressure, but are not receiving the support they need.

Cardiac rehabilitation

- Cardiac rehabilitation is a NICE-recommended intervention which can save lives, improve quality of life, and prevent unplanned hospital admissions. Prior to the pandemic, access to and uptake of cardiac rehabilitation services was low – only 52% of eligible patients took it up. The NHS Long Term Plan recognised that scaling up participation to be amongst the best in Europe could prevent up to 23,000 premature deaths and 50,000 acute hospital admissions over 10 years. It set a target of 85% uptake.

- The pandemic has completely derailed progress towards that goal. From February 2020 to July 2020, the rate of uptake for cardiac rehab declined by 36%, due in large part to the deployment of staff, and introduced new inequities such as digital exclusion

- People with Asian and Black, Asian, or Caribbean ethnic backgrounds experienced disproportionately dramatic declines in participation compared to white populations, with their participation rates falling by 45% and 44% respectively.[xvii]

- To ensure that access is equitable, we need to see local services developing and implementing strategies to address the participation gap as outlined in the National Audit of Cardiac Rehabilitation (NACR) Quality and Outcomes Report. This includes ensuring that all cardiac rehab delivery modes (e.g. home based, group based, or hybrid versions) are offered to all eligible patients and that patient choice is supported. This aligns well with the drive across the NHS for greater personalisation and patient self-empowerment, while also ensuring that patients with different needs are well supported to access services in a way that works for them.

We also want to see more support to help NHS staff manage their blood pressure

- The NHS Long Term Plan began a national conversation, continued in the NHS People Plan, around the need for the NHS to support the health and wellbeing of its own staff. We welcome the commitments in the People Plan to support NHS staff to access healthcare services for themselves, including the annual flu vaccine, and to ensure they can access mental health support.
- We urge this White Paper to consider providing a steer about how else the NHS can support its own people, in particular by supporting staff at every level of the organisation to have their blood pressure taken and monitored regularly (if required). As more and more patients are given this opportunity, through the Make Every Contact Count initiative, to have their blood pressure monitored at vaccination centres, we hope that staff and volunteers are similarly supported to do so.

The White Paper must commit to providing NHS services with the tools and resources they need to trial best practice approaches to maximise engagement with people who are currently the most disadvantaged and underserved by the health system.

Case Study: UCLPartners Blood Pressure Optimisation Programme

The programme, which will run until March 2023, aims to transform the prevention of CVD by optimising the clinical care and self-management of people with hypertension.

This programme provides a pragmatic framework for primary care services to address health inequalities by systematically risk stratifying patients and prioritising those at highest risk on the hypertension register for treatment optimisation. Applying the Core20PLUS5 framework, primary care services will be encouraged to target 20% of the most deprived populations as well as other local priority groups, including people with multiple long-term conditions.

This approach is hoped to help practices to manage workflow at a time of limited capacity, while also ensuring services reach patients who most need care.

4. Action to diversify research and harness data to ensure everyone benefits from advances in health

In cardiovascular research, the underrepresentation of certain groups is well documented:

- Despite cardiovascular disease being a leading cause of death among women, a global review of 740 cardiovascular trials conducted between 2010 and 2017 found that just 38.2% of clinical trial participants were women.[xviii]
- People from ethnic minority backgrounds also continue to be underrepresented in cardiovascular research studies.[xix]

This lack of representation can mean that some populations are prevented from experiencing the benefits of research innovations and getting high quality care. This is because different groups may respond differently to an intervention due to differences in physiology or disease state, meaning that results may not be generalisable to all individuals, and that some individuals may even be put in harm. For example, pulse oximeters, designed to spot early signs of dangerous decreases in blood oxygen levels, work less well in those with darker skin, therefore putting this group at a higher risk of crucial symptoms going undetected[xx]. Participants in research studies should therefore reflect the demographics of the population, with particular attention to those most affected by the disease of interest.

A lack of diversity and inclusion has also been documented in datasets that are then used in health research and population health management, including algorithmic decision-making, potentially exacerbating existing inequalities. For example, racial biases have been identified in prognostic models designed from the Framingham Heart Study[xxi], and precision medicine protocols based predominantly on European ancestral genotypes.[xxii]

Health data are an incredibly powerful tool for driving health and research discoveries and innovations, and the UK is in an enviable position in this space, thanks to rich health datasets held by the NHS. However, this lack of representative data, as well as low public trust and limited researcher access and training are all barriers to utilising health data to its full potential.

Safely unlocking this resource for researchers, building trust around data sharing and use among the public and improving the diversity of health datasets is vital for tackling every health challenge faced by the UK – not least health inequalities.

The 2021 Clinical Research Vision recognised that making research more diverse is critical to addressing persistent health inequalities, outlining how research should be 'delivered where the patients with the greatest need are located' and the need to engage more diverse communities through trusted channels will help to bring about research and healthcare innovations that serve the needs of the whole population. The White Paper should similarly make these principles a key focus in the coming years.

---

[i] Public Health England based on ONS death registration data and mid-year population estimates, and Ministry of Housing, Communities and Local Government Index of Multiple Deprivation, Breakdown of the life expectancy gap (2015-17), Segment Tool

[ii] Global Burden of Disease Collaborative Network. Global Burden of Disease Study 2019 (GBD 2019) UK estimates. Seattle, United States: Institute for Health Metrics and Evaluation (IHME), 2020.

[iii] NHS Digital, *National Child Measurement Programme,* 2021, https://digital.nhs.uk/data-and-information/publications/statistical/national-child-measurement-programme/2020-21-school-year

[iv] Fair Society, Healthy Lives (2010). Page 145, https://www.instituteofhealthequity.org/resources-reports/fair-society-healthy-lives-the-marmot-review/fair-society-healthy-lives-full-report-pdf.pdf

[v] GP Patient Survey 2019/20, via OHID Fingertips, https://fingertips.phe.org.uk/

[vi] Health Foundation, *Addressing the leading risk factors for ill health,* 2022, https://www.health.org.uk/publications/reports/addressing-the-leading-risk-factors-for-ill-health

[vii] APPG on Smoking and Health, *Delivering a Smokefree 2030,* 2021, https://ash.org.uk/wp-content/uploads/2021/06/APPGTCP2021.pdf

[viii] The Health Foundation, *Public Health Grant allocations,* 2021, https://www.health.org.uk/news-and-comment/news/public-health-grant-allocations-represent-a-24-percent-1bn-cut

[ix] IPPR, *Hitting the poorest worst,* 2019, https://www.ippr.org/blog/public-health-cuts

[x] The Health Foundation, *Why greater investment in the public health grant should be a priority,* 2021, https://www.health.org.uk/news-and-comment/charts-and-infographics/why-greater-investment-in-the-public-health-grant-should-be-a-priority

[xi] The British Heart Foundation, The Untold Heartbreak, 2021. Legacy of Covid | British Heart Foundation (bhf.org.uk)

[xii] NHSE Consultant-led Referral to Treatment (RTT) Waiting Time data for January 2021

[xiii] BHF analysis. We are happy to provide more information if required.

[xiv] Health and Social Care Secretary speech on Health Reform, 8 March 2022: Health and Social Care Secretary speech on Health Reform - GOV.UK (www.gov.uk)

[xv] First Annual Audit Report, CVDPREVENT, NHS England » CVDPREVENT

[xvi] For more information on the Core20PLUS5 approach, see here: NHS England » Core20PLUS5 – An approach to reducing health inequalities

[xvii] BHF, National Audit of Cardiac Rehabilitation (NACR) Quality and Outcomes Report (2020)

[xviii] Jin et al. Women's participation in Cardiovascular Clinical Trails from 2010 to 2017 *Circulation,* 141, 7, *2020*

[xix] Clark et al, Increasing diversity in Clinical trials, Current Problems in *Cardiology,* 44, 5, https://www.sciencedirect.com/science/article/pii/S0146280618301889, 2019

[xx] Sjoding, M.D. et al, Racial Bias in Pulse Oximetry Measure, in *The New England Journal of Medicine,* 2020, https://www.nejm.org/doi/10.1056/NEJMc2029240

[xxi] Gijsberts, C. M. et al. Race/ethnic differences in the associations of the Framingham risk factors with carotid IMT and cardiovascular events. *PLoS ONE* **10**, e0132321 (2015).

[xxii] Cahan et al, Nature, Putting the data before the algorithm in big data addressing personalized healthcare, 2019, https://www.nature.com/articles/s41746-019-0157-2