Dudley Health and Wellbeing Board **Appendix 1**

Reducing deaths due to circulatory disease – A deep dive

1. Introduction

This paper supports a 'deep dive' into the plans to reduce mortality from circulatory disease in the Dudley population. It should be read alongside the previously produced action plan (this can be found here on pages 68-94). A background into the selection of the priority by the Health and Wellbeing Board is provided, followed by a position statement and plans for each objective, with accompanying data where applicable.

2. Background

2.1. Definition of circulatory disease

Circulatory disease (also referred to as cardiovascular disease) includes coronary heart disease (for example heart attacks and angina), heart failure, stroke, vascular diseases, problems with heart rhythm, high blood pressure and its consequences and diseases of the heart valves.

2.2. Mortality from circulatory disease in Dudley

The Black Country has one of the highest rates of mortality from circulatory disease in the country. Dudley is in the best position of the 4 places, though still lies slightly below the top 1/3rd of all local authorities (see table 1).

Area	Deaths from circulatory disease, under 75 years, standardised mortality ratio (2016-2020)	Rank out of 309 local authorities
England	100	
Wolverhampton	151.34	4
Sandwell	148.53	7
Walsall	131.07	28
Dudley	107.15	104

Table 1. Circulatory disease mortality rates in Black Country Local Authorities[1]

[1] These mortality rates are indirectly standardised. This is calculated by calculating the number of deaths expected based on age and sex distribution if they occurred at the same rates as those of England. The ratio is then calculated by dividing the number of deaths observed by the number expected and multiplying by 100. Dudley's mortality rate of 107.15 is therefore higher than that expected (if it was the same as England) by 7.15%.

2.3. Deprivation and mortality rates from circulatory disease

When differences in life expectancy between most and least deprived areas of Dudley are considered, circulatory disease is the biggest cause of death, followed by cancer, respiratory disease and COVID-19 (See 'scarf plot', figure 1.)

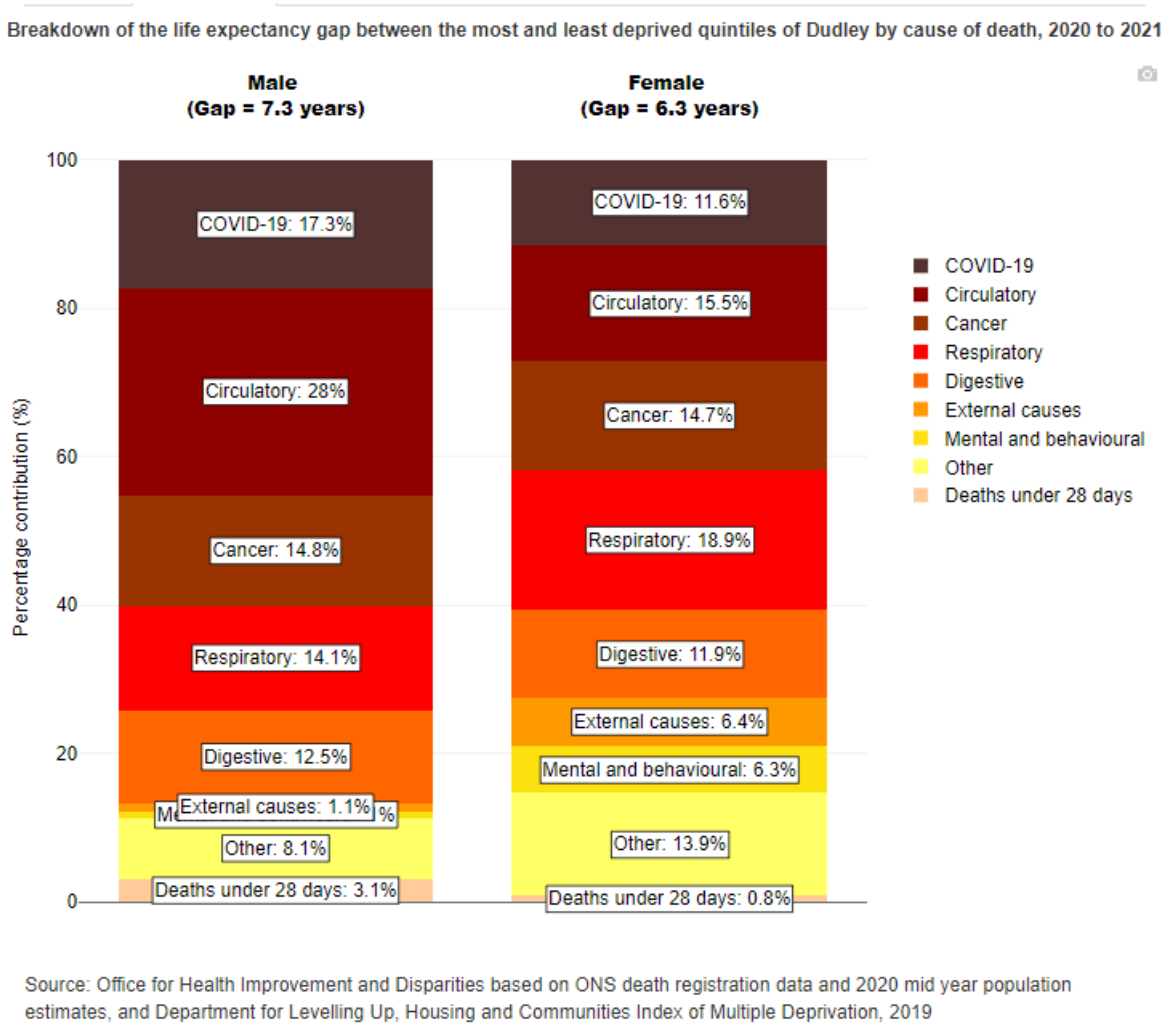


Figure 1. Scarf plot for life expectancy gap in Dudley residents.

When examined at electoral ward level, there is a clear relationship between deprivation (measure by index of multiple deprivation – a parameter derived from the census) and deaths from circulatory disease (see figure 2). This relationship is stronger when premature mortality from circulatory disease is examined by deprivation (see figure 3 showing relationship between deprivation and mortality rates from CIRCULATORY DISEASE in under 75s). This is consistent with circulatory disease being the biggest cause of death explaining the difference in life expectancy shown in figure 1. Comparison of mortality rates by electoral ward is provided in figure 4.

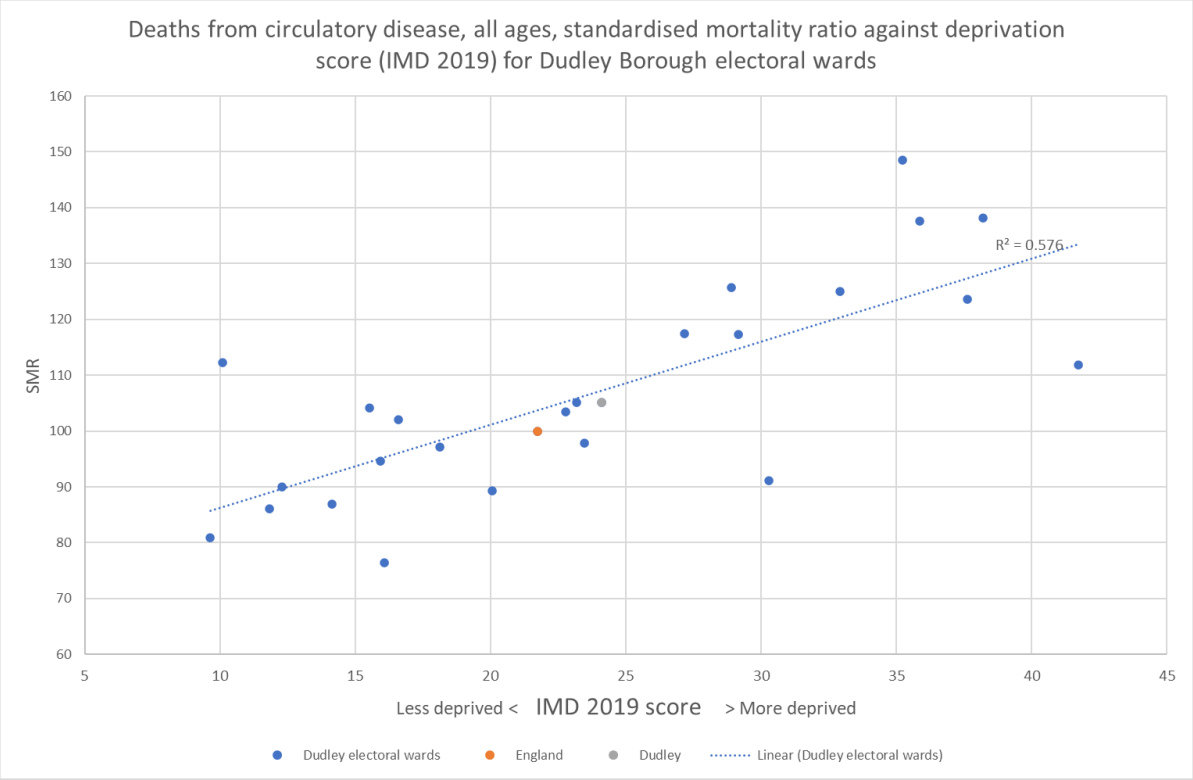


Figure 2. Relationship between deprivation and deaths from circulatory disease.

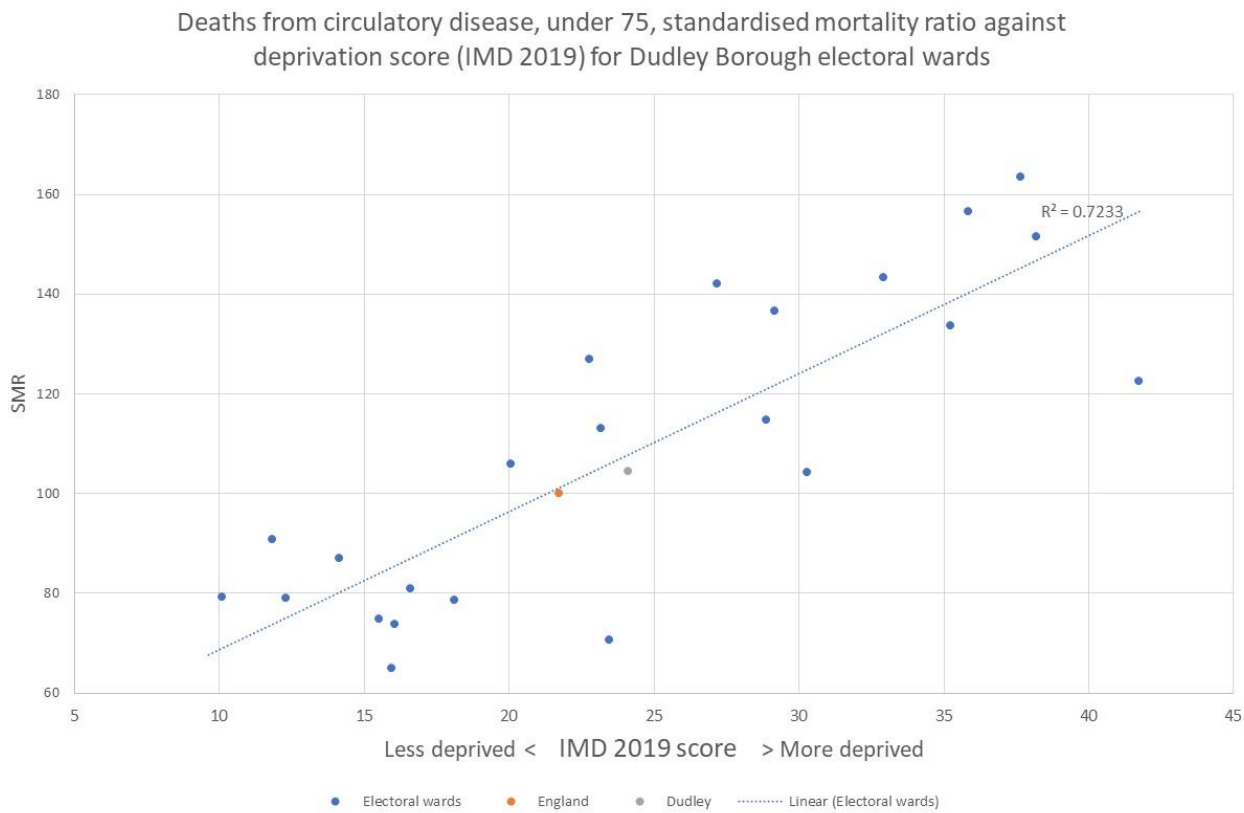
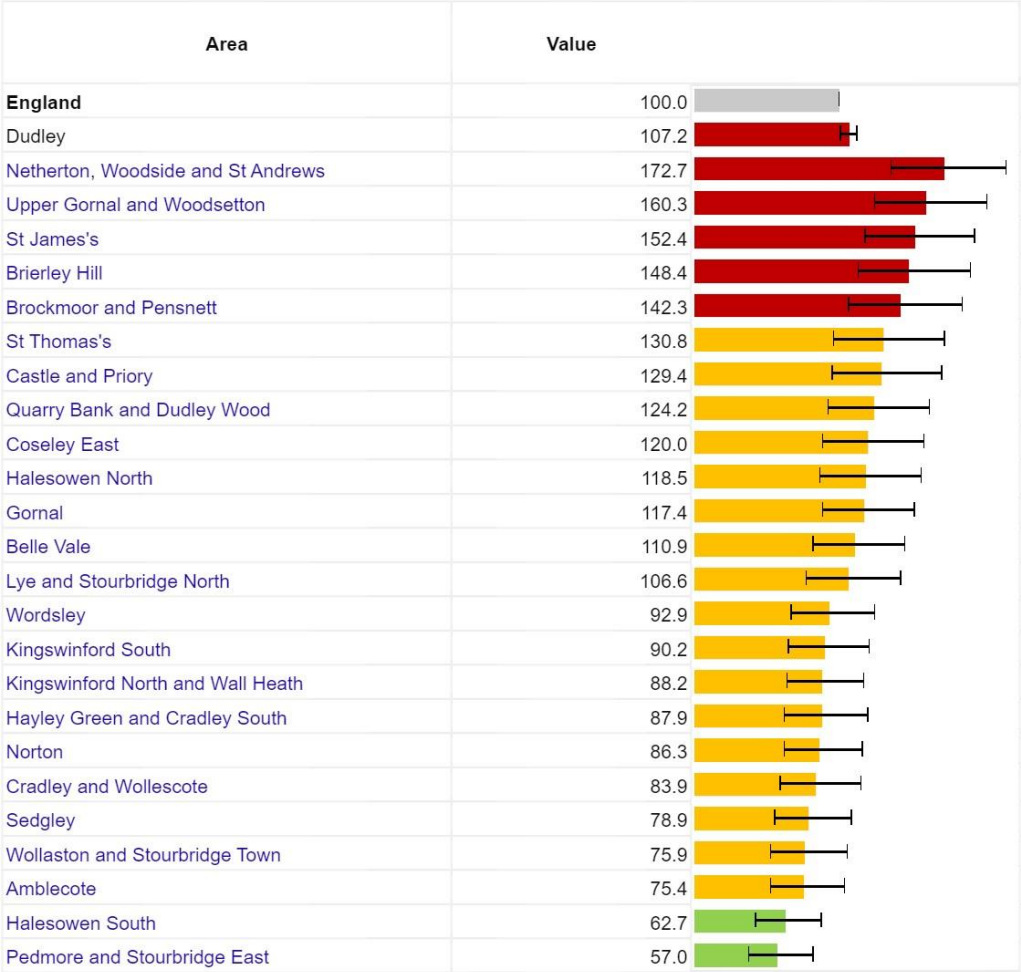


Figure 3. Relationship between deprivation and deaths in under 75s from circulatory disease.

Deaths from circulatory disease, under 75 years, standardised mortality ratio 2016 - 20



Area	Value
England	100.0
Dudley	107.2
Netherton, Woodside and St Andrews	172.7
Upper Gornal and Woodsetton	160.3
St James's	152.4
Brierley Hill	148.4
Brockmoor and Pensnett	142.3
St Thomas's	130.8
Castle and Priory	129.4
Quarry Bank and Dudley Wood	124.2
Coseley East	120.0
Halesowen North	118.5
Gornal	117.4
Belle Vale	110.9
Lye and Stourbridge North	106.6
Wordsley	92.9
Kingswinford South	90.2
Kingswinford North and Wall Heath	88.2
Hayley Green and Cradley South	87.9
Norton	86.3
Cradley and Wollescote	83.9
Sedgley	78.9
Wollaston and Stourbridge Town	75.9
Amblecote	75.4
Halesowen South	62.7
Pedmore and Stourbridge East	57.0

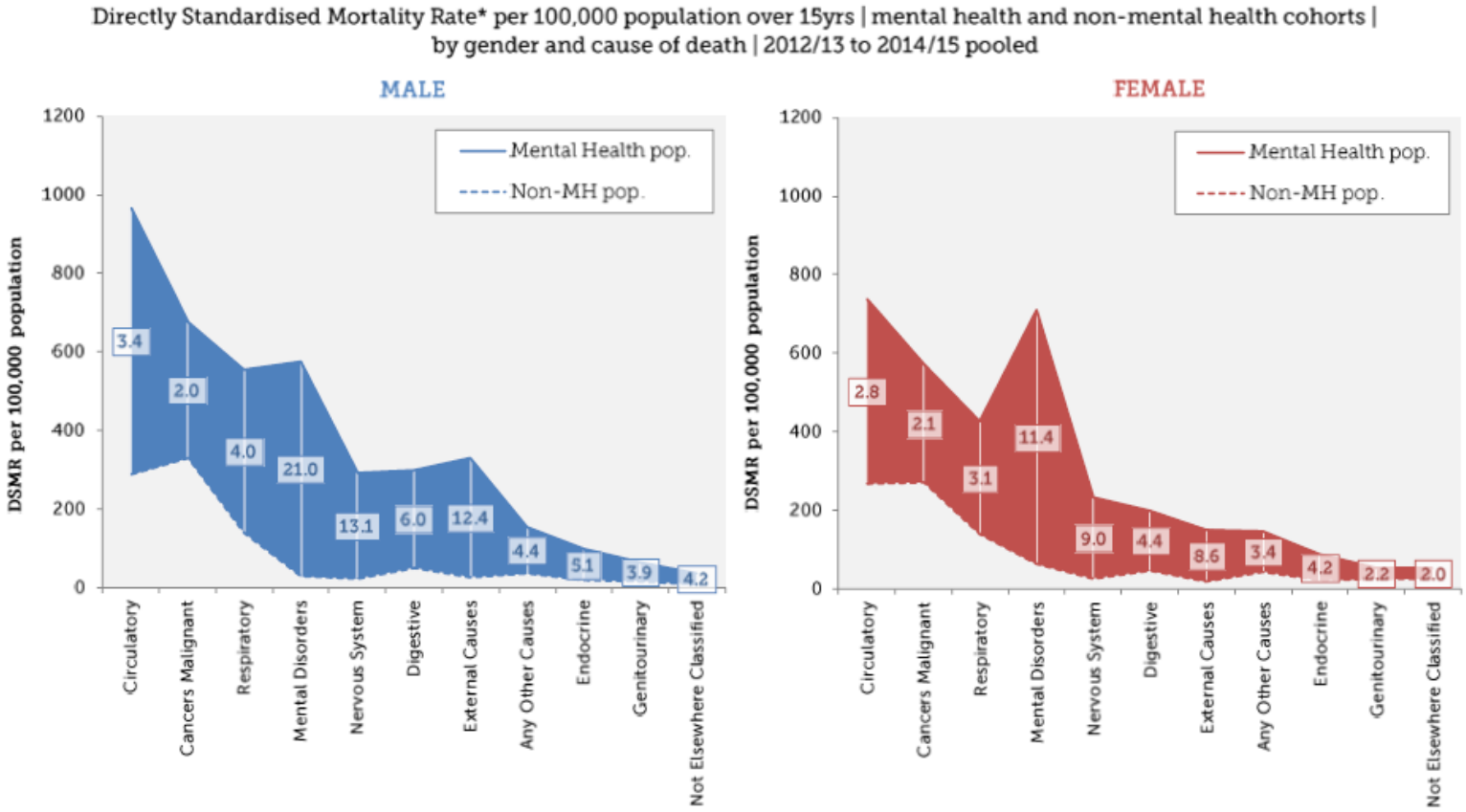
Figure 4.

2.4. Other inequalities.

Deprivation is the element of health inequalities that is easiest to measure across the Borough. However, evidence demonstrates that other segments of our population are disadvantaged. When ethnicity is considered, minority ethnic populations generally have higher risk of developing circulatory disease and diabetes than white British populations (see table 2).

	South Asian	Indian	Pakistani	Bangladeshi	Black	Black African	Black Caribbean	Chinese
IHD or CVD	Higher risk	Higher risk	Higher risk	Higher risk	Lower risk	Lower risk	Lower risk	Lower risk
Stroke	Higher risk				Higher risk	Higher risk	Higher risk	
Stroke or TIA		No difference	Higher risk	Higher risk		No difference	No difference	Lower risk
Diabetes	Higher risk	Higher risk	Higher risk	Higher risk	Higher risk	Higher risk	Higher risk	

Table 2. Risk of developing circulatory disease and diabetes in minority ethnic populations compared to white British (Commission on Race and Disparities, 2021).



NB. The values across the middle of the chart indicate the rate ratio of mortality rates between mental health service users and the rest of the population e.g. DSMR for circulatory disease is 3.4 times higher in the male mental health service user population.

Figure 5.

Figure 5 shows the difference in mortality rates between mental health service users and the rest of the population in the Black Country; there is a 3.4 times higher mortality rate from circulatory disease in this population. Although rates in Dudley are lower than other parts of the Black Country, this inequality is still a cause for concern.

In terms of gender inequalities, mortality rates from circulatory disease in Dudley males are significantly higher than that for England. Although those for Dudley females are higher than those for England, this difference does not reach statistical significance. This suggests that males in Dudley are impacted more by circulatory disease then females. However, the British Heart Foundation have also flagged inequalities in care provision where women experiencing heart attacks receive inferior care to that provided to men.

2.5. Circulatory disease risk factors

Risk factors for circulatory disease are well documented and are shown in figure 6. Most are modifiable, with diet, smoking and hypertension being the leading causes of premature death. Clearly these are also risk factors for other diseases including cancer, respiratory disease and diabetes. Furthermore, circulatory disease is frequently accompanied by other vascular and metabolic co-morbidities such as chronic kidney disease, diabetes and vascular dementia.

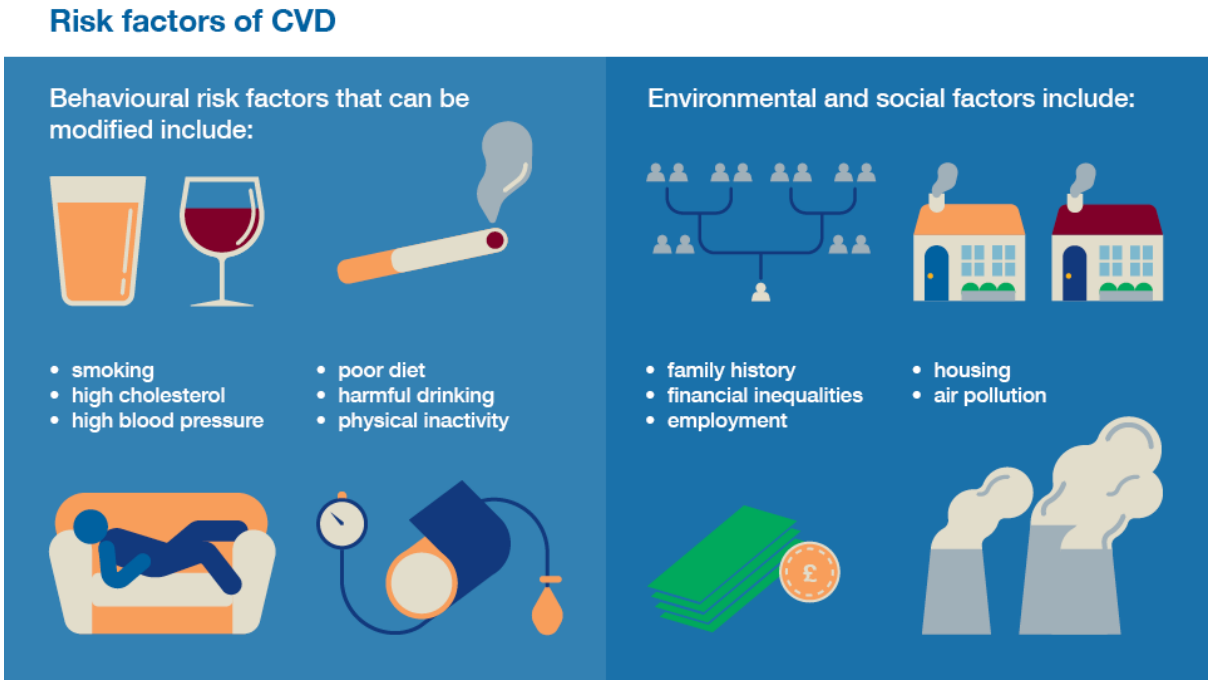


Figure 6.

While lifestyle factors have an obvious impact on CIRCULATORY DISEASE, these are in turn impacted on by social and environmental factors such as income, employment and educational attainment. It is therefore important that the wider determinant of health are included in any longer term plans to prevent and reduce mortality from circulatory disease.

3. The Dudley plan for reducing circulatory disease mortality.

Reducing circulatory disease deaths Action Plan – 2023-2028

Long term objectives	
Improve active travel availability/uptake	Use of Town Planning and regeneration
Improve the use and availability of green and blue space	Reduce the availability or sale of illegal tobacco / vapes
Monitor and improve air quality	Monitor and respond to noise complaints

Inequalities

- Deprivation
- Severe mental illness
- Ethnicity

Short to medium term objectives	
Healthier food choices	Increase detection of hypertension
Increase physical activity	Improve blood pressure control
Decrease unhealthy lifestyle choices	Increase statin use in patients with CD
Wider determinants of health	Improve cholesterol control in CD
Offer community support for people who stop smoking in hospital.	Increase triple control in diabetes
Increase impact of Healthy Heart Hubs	Increase physical health checks for people with severe mental health illness
Better targeting of health checks	

Enablers / supporters

- Co-location
- Communications
- Contracts
- Policy review
- Evidence review
- Education
- Learning system
- Data
- Outcomes
- SMART objectives
- Governance
- Partners

Figure 7. Summary of Dudley action plan to reduce circulatory disease mortality

A summary of the Dudley action plan is provided in figure 7. The plan consists of a balanced range of objectives which cover short to long term objectives, direct actions of health care services, life-style interventions and addressing environmental and wider determinants of health. This is not a complete inventory of objectives which may impact on the overarching objective, but focusses on where collaborative efforts are required to address objectives, where biggest impact is likely and where Dudley is in a worse position than that of England.

4. Approach to inequalities

The main focus with respect to inequalities is deprivation, mainly due to availability of accurate data. It is also evident that deprivation will eclipse aspects such as ethnicity and severe mental illness. However, interventions are still being developed which are mindful of higher mortality rates and risks within specific disadvantaged populations and wherever possible data analysis and insight should encompass more than deprivation alone. Where community-based interventions are considered, geography-based data relating to mortality rates and deprivation (where there is a very well-established relationship) will guide targeting of activities. In health care provision, the relationship between performance, deprivation and poor health outcomes is less well-defined, due to the complex interaction of environmental and social factors; health care performance has only a limited although not insignificant impact on mortality rates. The approach here consists of 2 dimensions. Firstly, focussing more effort on disadvantaged populations with high mortality rates and secondly segmenting practices according to deprivation within the population and performance by the practice, with more support provided to those practices with both high deprivation and lower performance. Further scoping is also ongoing to understand inequalities with respect to ethnicity, mental health and gender.

5. Long-term objectives

5.1. Active travel

The Active Lives data shows that Dudley has a higher level of inactivity compared to the Black Country average and to the England average. It also shows a steady increase year on year from 2015.

Active travel in Dudley looks at how we can promote alternatives to car use, with the new Metro in mind, the use if cycling and walking routes to and from metro stops and along the corridor, so that journeys can be made without any reliance on the car. This will hopefully have the added effect of reducing cars on the road to make them more appealing for cyclists.

This active travel insight work is complete, and a full report has been produced. The report makes recommendations from which an action plan is currently being developed.

5.2. Green and blue space

Work has been done on green and blue spaces in the borough to make them appealing and accessible for recreational use. The promotion of these sites is ongoing to encourage physical activity and their use for alternative travel, e.g. promoting the use of canal routes to travel to work.

5.3. Air quality

The Council has a continuing programme of monitoring air quality across the borough – this programme will inform any specific measures to reduce circulatory as well as respiratory disease.

5.4. Town planning and regeneration

Particularly to encourage physical activity, this work includes pedestrianised areas in town centres, so that they are not dominated by parked cars, encouraging them to be a safe and enjoyable place to walk. This means that these spaces are not built for car use, making them more conducive to walk around and offering places to sit and socialise. Linking the transport network makes it easier to take public transport and not rely on the car.

The assessment of town centres work included healthy high street assessments. This looks at healthy retail offers on our high streets (for food especially) and prevalence of unhealthy retail offers such as vape shops. The assessment gives a score to the high street and highlights recommendations for improvement. This work is also especially useful when deciding on planning applications, with the aim to reduce over proliferation of unhealthy retail offers. The report is currently awaited.

5.5. Illegal tobacco and vapes

The Council's Trading Standards team has been successful over the past few years in addressing illegal sales of tobacco and vapes. As well as evasion of tax levies, these products are often sourced through illegal and unregulated routes, with concerns over contaminants which potentially pose a higher risk to health than legal products.

6. Short and medium term objectives – 'Upstream'

6.1. Lifestyle factors

Figure 8 summarises the way the recently re-commissioned Health Improvement Service Works. The focus is on Lifestyle Behavioural Modification and embedding healthy life choices, health checks, smoking cessation, advice on healthy eating, weight loss and physical activity. The service will have a particular aim to increase access to the service for those in deprived areas and those with the greatest need, i.e., those with existing circulatory diagnoses or who are at high risk of developing a circulatory condition.

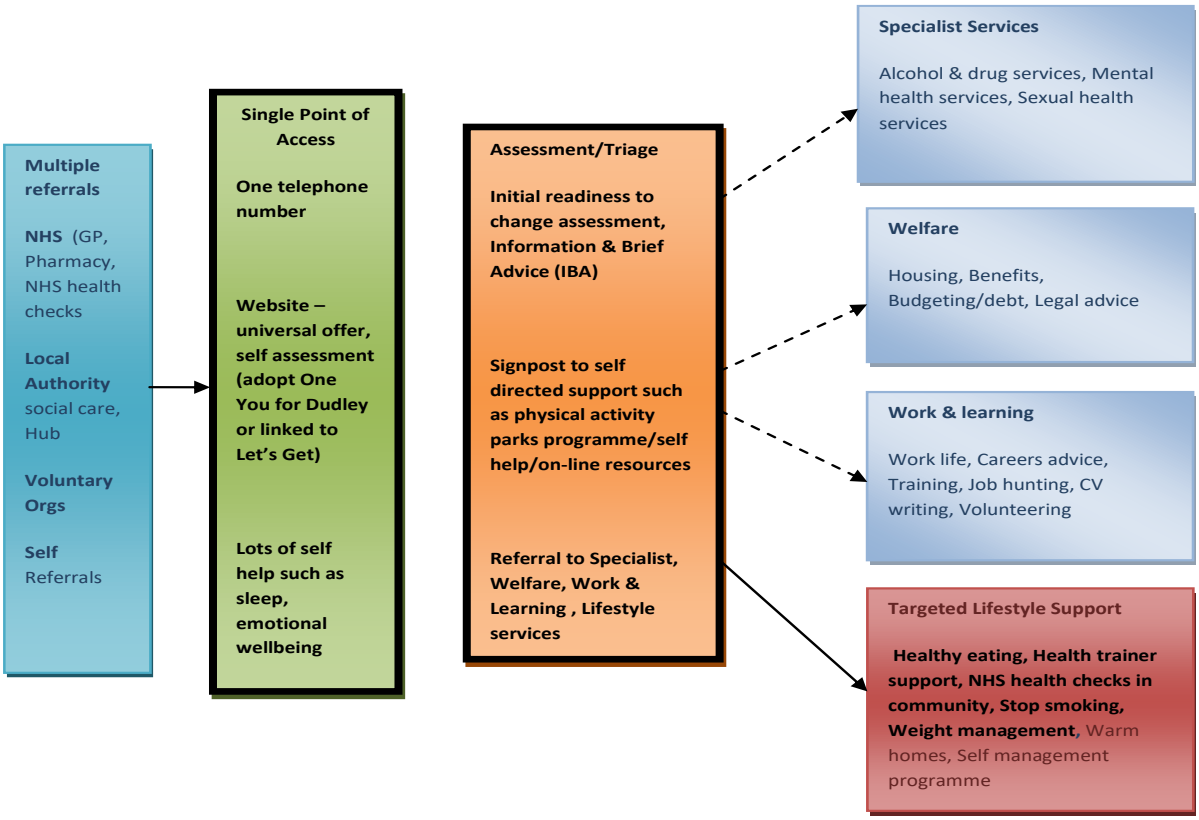


Figure 8. The delivery model for the Dudley Health Improvement Service

The service will include:

- Education and support to service users who are on the Tier 2 weight management service via a 12-week programme.
- Family Wellness – Supporting children and young people to establish healthy lifestyle habits will help improve their future wellbeing and reduce the risk of disease in later life. A key focus of the service will be to provide free and personalised support to children and young people and their families to help them make positive changes to their lifestyle.
- Education and empowerment of healthy eating at community events.
- Physical activity awareness and signposting to initiatives around the borough, with additional support from the 'Let's Get Moving' publicity campaign.

- A referral route for hospitals inpatients who are interested in behaviour change who will then be offered a menu of health improvement of options inlcuding weight management, smoking cessation, alcohol brief advice and physical activity.

6.2. Increase impact of 'Healthy Hearts Hubs'

The Healthy Heart Hub work aims to provide a community venue to reach residents who do not normally access health by visiting their GP practice, and who feel more motivated to access health in a non-clinical setting in their community.

The Healthy Heart Hubs are operating pilots across the borough, using the evaluation to improve the offer. Once the model is fully developed, the aim would be for there to be a Healthy Heart Hub event every two weeks in community venues across Dudley.

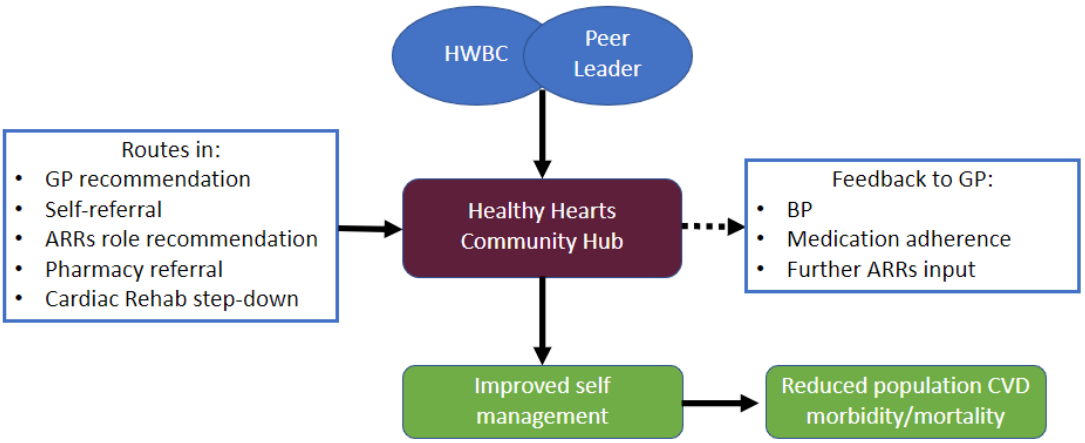


Figure 9. Healthy Hearts hub model

6.3. Better targeting of health checks

The NHS Health Checks program is a mandated service, commissioned by local authorities, that provides a five yearly lifestyle risk assessment of adults aged between 40 and 74 who do not already have a diagnosis of cardiovascular disease or are receiving medical treatment to prevent it. Dudley's NHS health checks program has been recognised nationally as one of the better performing in the country, is viewed as a model of best practice by our peers and Dudley is represented on national advisory groups.

Most of the NHS Health Checks take place within GP practices. In Dudley during Q1 and Q2 2023/4, 96% were completed by practices and 4% by our lifestyle services provider. Practices use their IT systems to search for those who are eligible and offer them an invitation to attend for their health check, but historically uptake has tended to be better in areas of lower need which has the potential

to widen inequalities if not carefully managed. The lifestyle services provider carries out health checks opportunistically in local community venues.

One advantage of delivering NHS Health Checks through primary care is that the GP software can be used to help practices target patients more effectively, based on assumed pre-existing level of risk and deprivation. From Q1 and Q2 2023/4 data, almost 70% of all health checks completed by practices were targeted towards these groups, and of those targeted, 22% were completed on people in the highest deprivation quintile. Just in the first four months of 2023/4, this approach identified 589 people who were unaware that they had a moderate (10-19%) risk of having a serious cardiovascular event (such as a heart attack) within the next ten years, and a further 92 who were at high risk (more than 20% likelihood of a serious event without prompt treatment).

7. Short and medium term objectives – 'downstream'

7.1. Improved detection of hypertension

Objective: **Increase the GP recorded prevalence of hypertension in patients 18 years and over from 22% to 24%**	
Current status: • Recorded prevalence of 22%. • Good track record for hypertension detection	Enablers: • Community pharmacy BP service. • Healthy Hearts Hub • Vaccination pop-up MECC offer • GP opportunistic measurement • Case-finding software • Health checks
Planned activities: • Increase home BP measurement • Implement digital health checks	Challenges: • Community engagement • Data interpretation
Requests from Health and Wellbeing Board partners: • Commitment to LA and NHS joint working. • Develop joined-up approaches to hypertension detection • LA support for community engagement around BP and 'know your numbers'.	

Figure 10 shows GP coded hypertension prevalence against the percentage of the practice list who are over 75. This illustrates one of the challenges in interpreting prevalence data. The biggest risk factor for hypertension is advancing age, so practices with a higher proportion of older patients would be expected to have more patients with this risk factor. Taking age distribution into account is therefore helpful in identifying those practices and patient populations where hypertension is most undiagnosed. Practices with deprived populations also tend to have fewer patients over the age of 75 due to shorter life expectancy described previously.

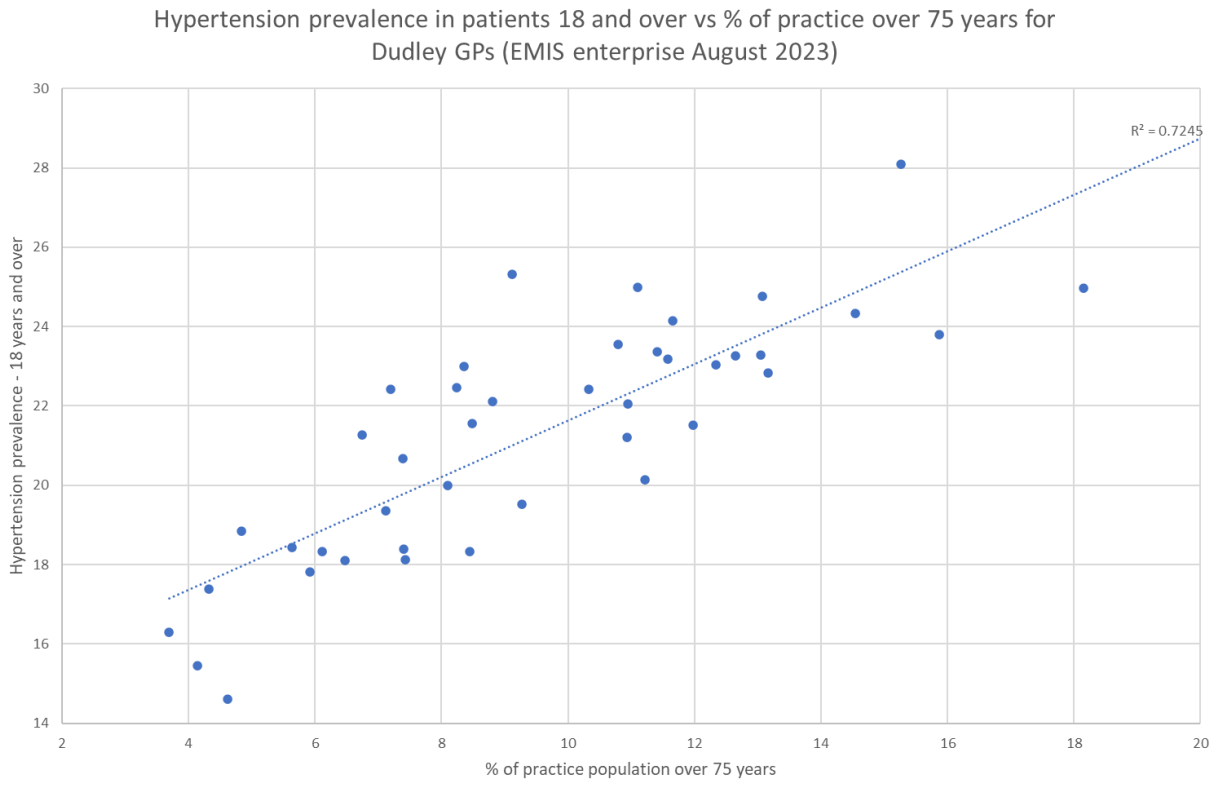


Figure 10.

7.2. Improve blood pressure control

Objective: Increase the percentage of patients with hypertension controlled to age-appropriate blood pressure target from 69% to 80%.	
Current status: • 69% of patients to target. • Lower than national position but faster movement than national. • High detected prevalence presents challenges – volume and engagement. • Under 80s have worse control than over 80s.	Enablers: • Clinical pharmacists undertaking medication reviews. • DQOFH metrics and incentive • Case-finding soft-ware. • Joined up approach between diabetes. cardiovascular and renal workstreams.
Planned activities: • ICB grant bid has been submitted. • Primary care education. • Work with secondary care to develop pathways.	Challenges: • Capacity - high detected prevalence presents challenges – volume and engagement. • Tendency to control those nearer to target – 'low hanging fruit'
Requests from Health and Wellbeing Board partners: • Continued support for DQOFH. • Support for pathway development for resistant hypertension.	

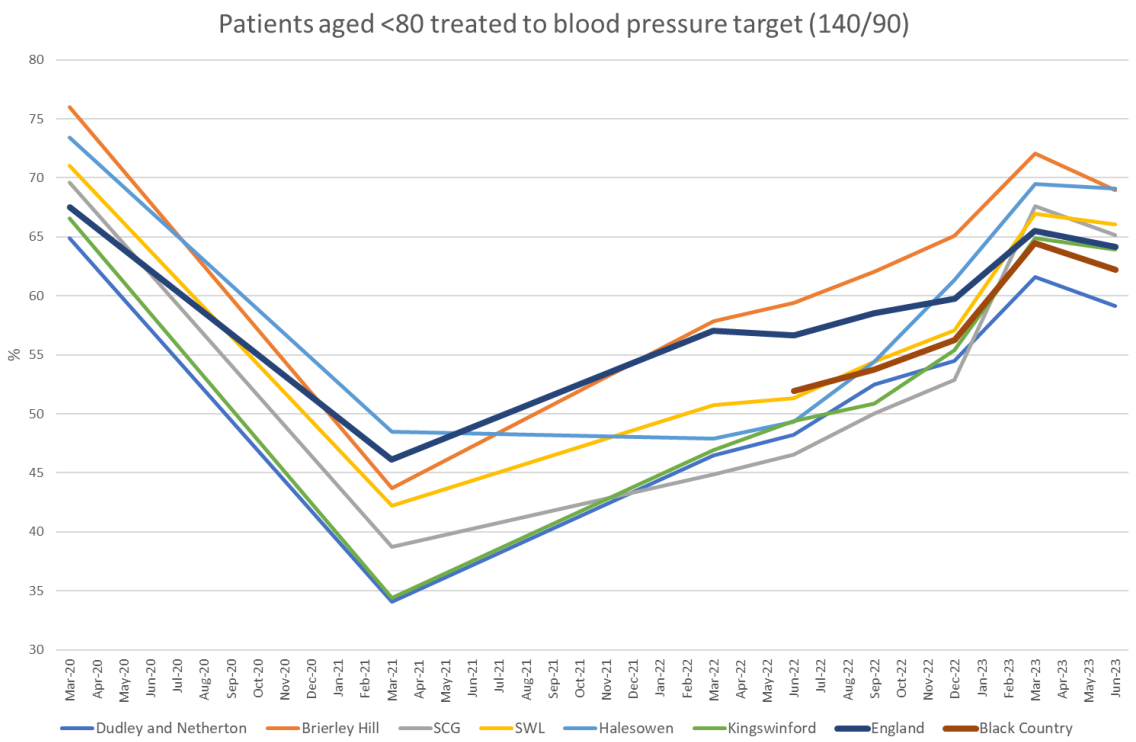


Figure 11.

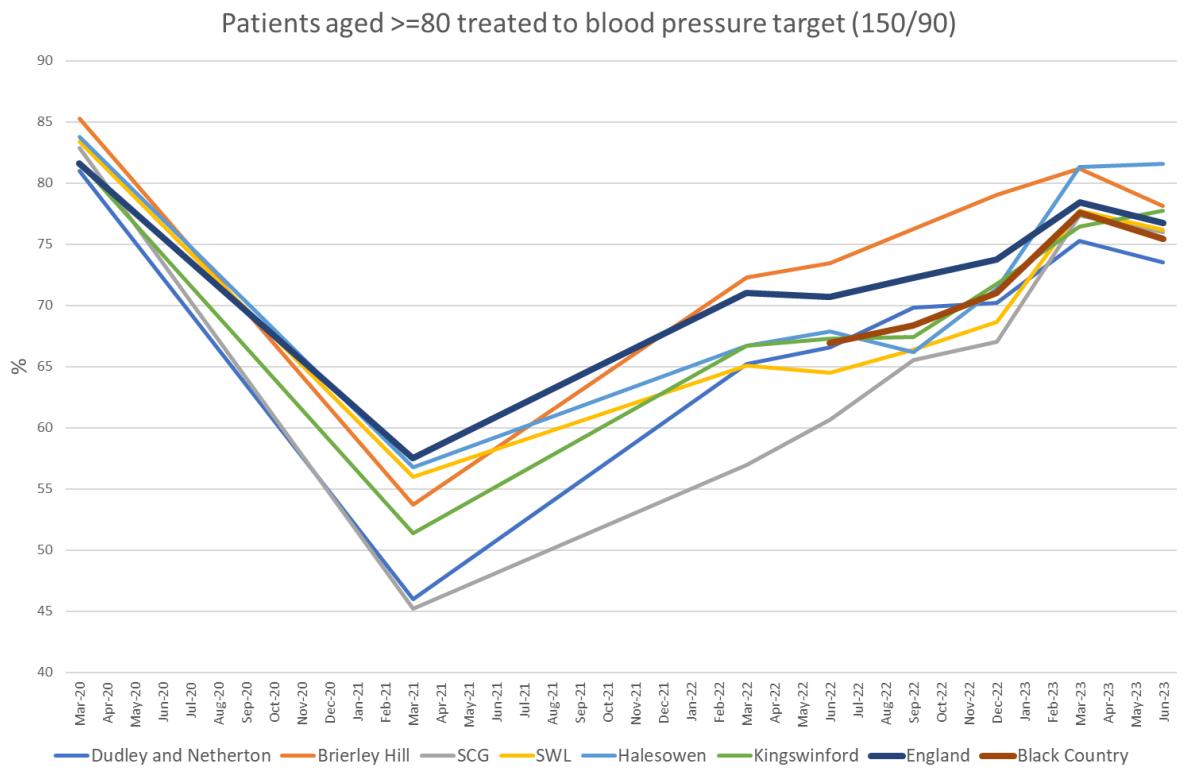


Figure 12.

Figures 11 and 12 show the time trend in the percentage of patients under 80 and 80 and over respectively treated to the age specific blood pressure target (140/90 for under 80s and 150/90 for80 and over). The charts, which show performance by primary care network, demonstrate that although there has been some improvement or recovery following the pandemic, there is still work to be done to achieve pre-pandemic values and to achieve the aspiration of 80% treated to target withing 5 years.

7.3. Increase statin use in patients with circulatory disease and increase the number of people treated to cholesterol target

<table>
<tr><td colspan="2">Objective: Increase percentage of people with cardiovascular disease treated with lipid modifying drugs from 69% to 90%.
Objective: Increase percentage of people with CVD treated to target cholesterol values from 32% to 35%.</td></tr>
<tr><td>Current status:
• 69% of patients with circulatory disease are prescribed a statin or similar.
• Below England value (82%).
• 32% of patients are treated to recommended cholesterol levels.
• Above England value (29%).
• Higher values in patients with higher risk – eg post heart attack.</td><td>Enablers:
• ICB project to support practices in deprived areas through ‘clinical ambassadors’.
• Clinical pharmacist support for pathways and clinical review.
• DQOFH.
• ICB prescribing incentive scheme.
• Primary care education (The IMPACT scheme).
• Support from chemical pathology in secondary care.
• Case-finding and risk stratification software.
• New medicines for lipid management.</td></tr>
<tr><td>Planned activities:
• Development of more effective pathways for patients undergoing cardiac rehabilitation.</td><td>Challenges:
• Resistance to prescribe new medicines – controversies!</td></tr>
<tr><td colspan="2">Requests from Health and Wellbeing Board partners:
• Continued support for DQOFH.
• Support for cross-sector pathway development.</td></tr>
</table>

Figure 13 shows the trend in patients with circulatory disease who are prescribed a lipid lowering therapy (for example, a statin) by primary care network. All 6 primary care networks are performing better than the England average, though there is some way to go to achieve an aspiration of 90% on treatment. Figure 14 shows trends in the percentage of this patient group treated to the recommended cholesterol levels. Again, performance is better than the England average but improvement is needed to get to the aspiration of 35% to target.

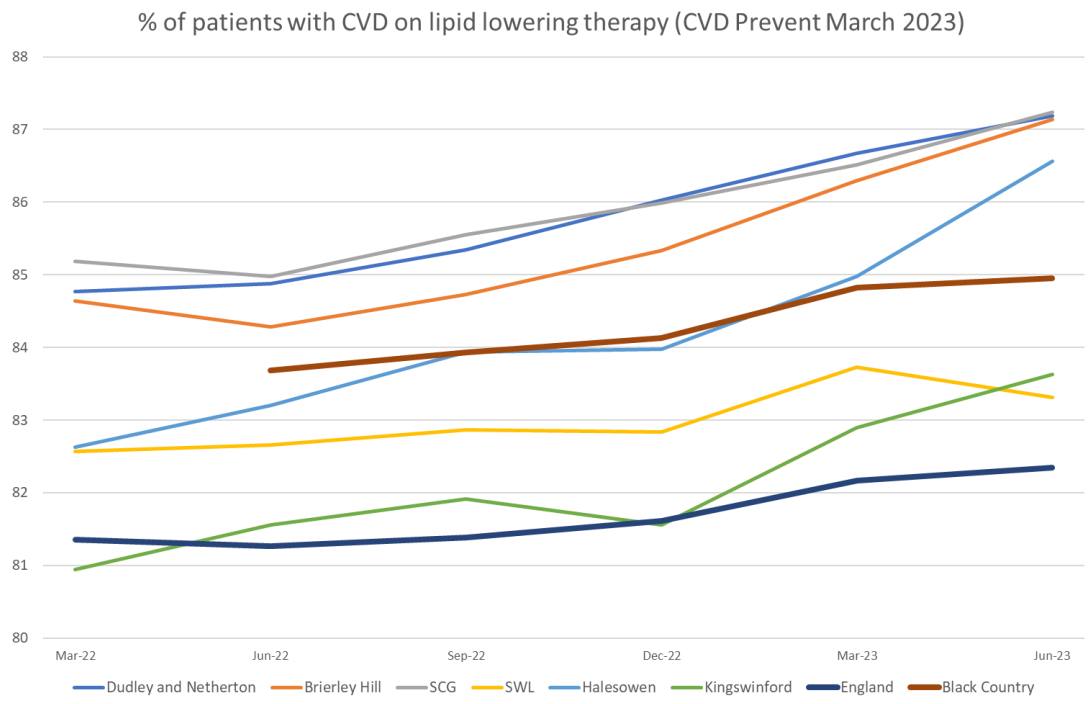


Figure 13.

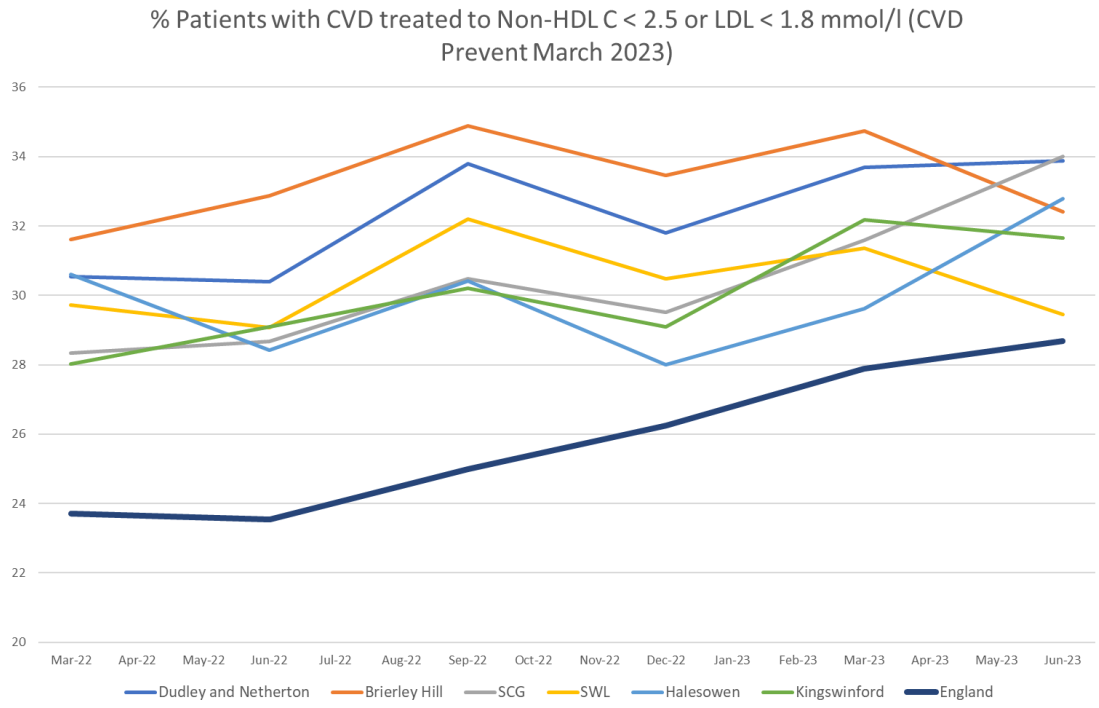


Figure 14.

7.4. Improve triple control in patients with type 2 diabetes

Objective: Increase the 'triple control' of diabetes from 33% to 44%	
Current status: • 33% of patients with diabetes achieved control of blood pressure, HbA1c and cholesterol. • National value – 36%	Enablers: • National diabetes audit • Diabetes steering group – development of multi-disciplinary approach to practice support • Software to identify patients needing support. • Structured diabetes education.
Planned activities: • Monitor progress. • Harness support of health and wellbeing coaches. • Review access barriers to structed education.	Challenges: • Capacity. • Engagement with patients.
Requests from Health and Wellbeing Board partners: • Support for cross-sector collaborative working.	

Figure 15 shows the percentage of patients with type 2 diabetes who are achieving 'triple control' (control of blood pressure, blood sugar and cholesterol) by practice. Currently, around a quarter of practices are achieving the aspiration of 44%.

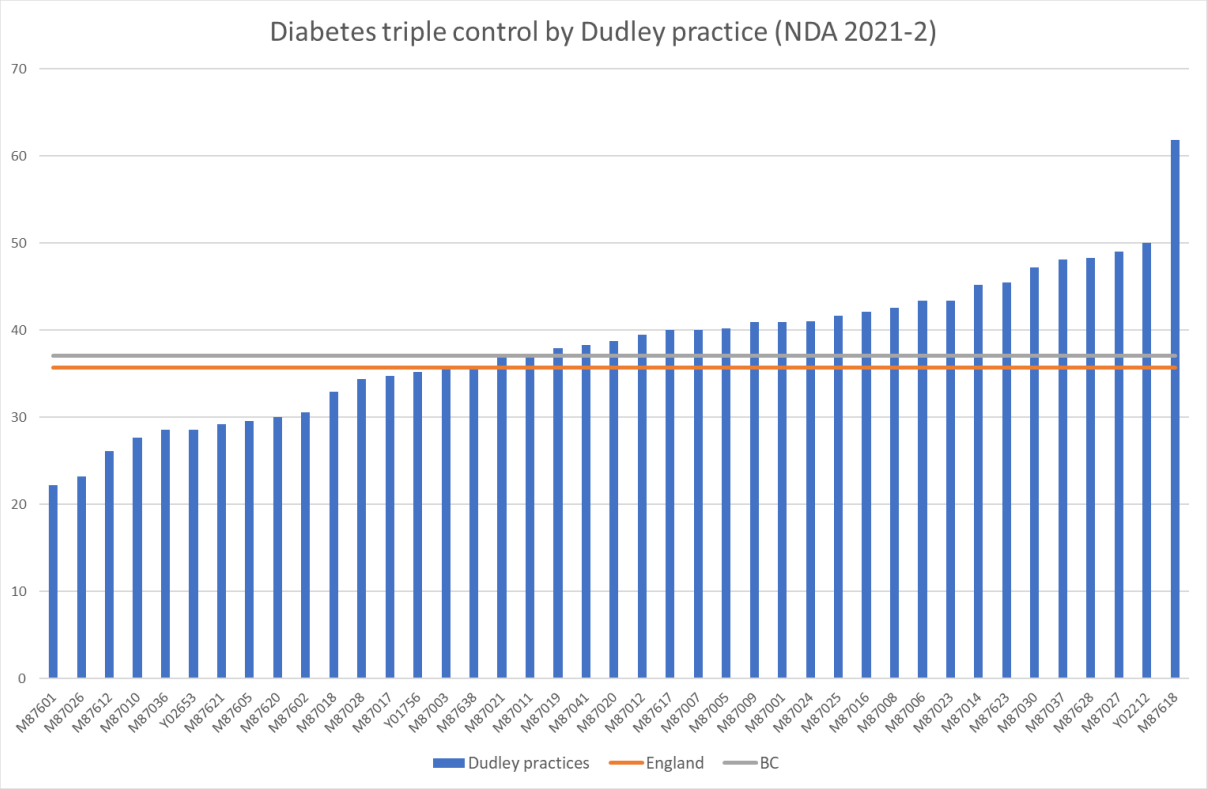


Figure 15.

8. Conclusions

This action plan provides a balance between long-, medium- and short-term objectives as well as up-stream and down-stream work programmes. Progress is being made against measurable objectives, though further work is needed to align more of the action plan to specific metrics. Further work is also needed to define a joined-up approach in the parts of the borough with the highest mortality rates. The Health and Wellbeing Board is asked to proactively support the objectives of the plan in strategic planning, addressing social, economic and environmental risk factors and in the design and delivery of services which aim to prevent and manage circulatory disease more effectively.