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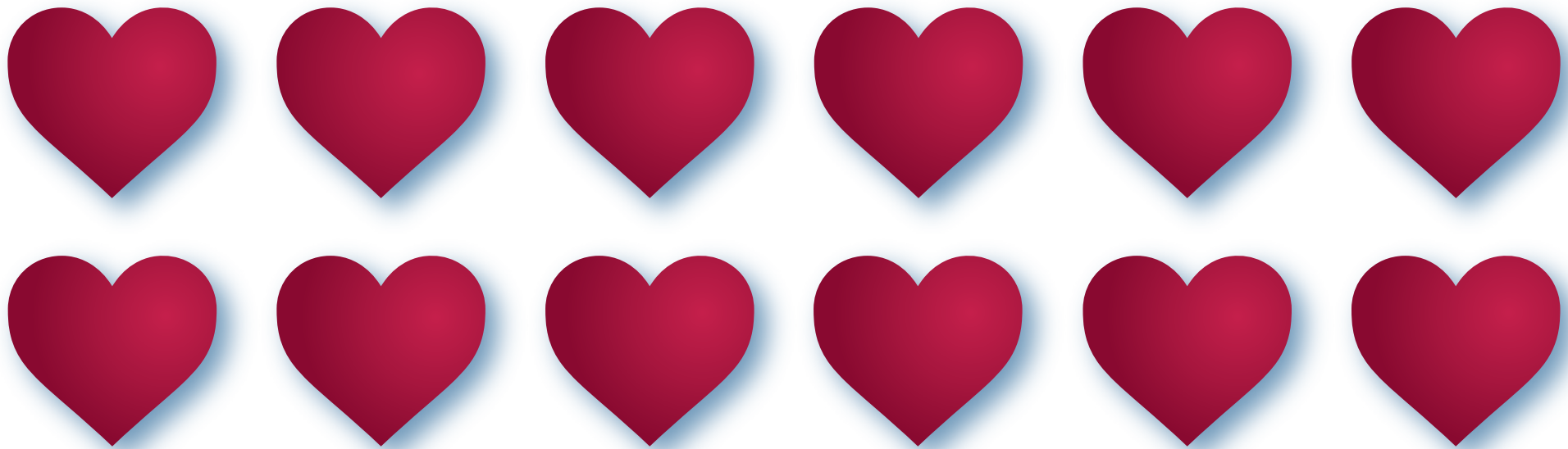
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Public Health
England

Protecting and improving the nation's health

Action plan for cardiovascular disease prevention, 2017 to 2018



September 2017

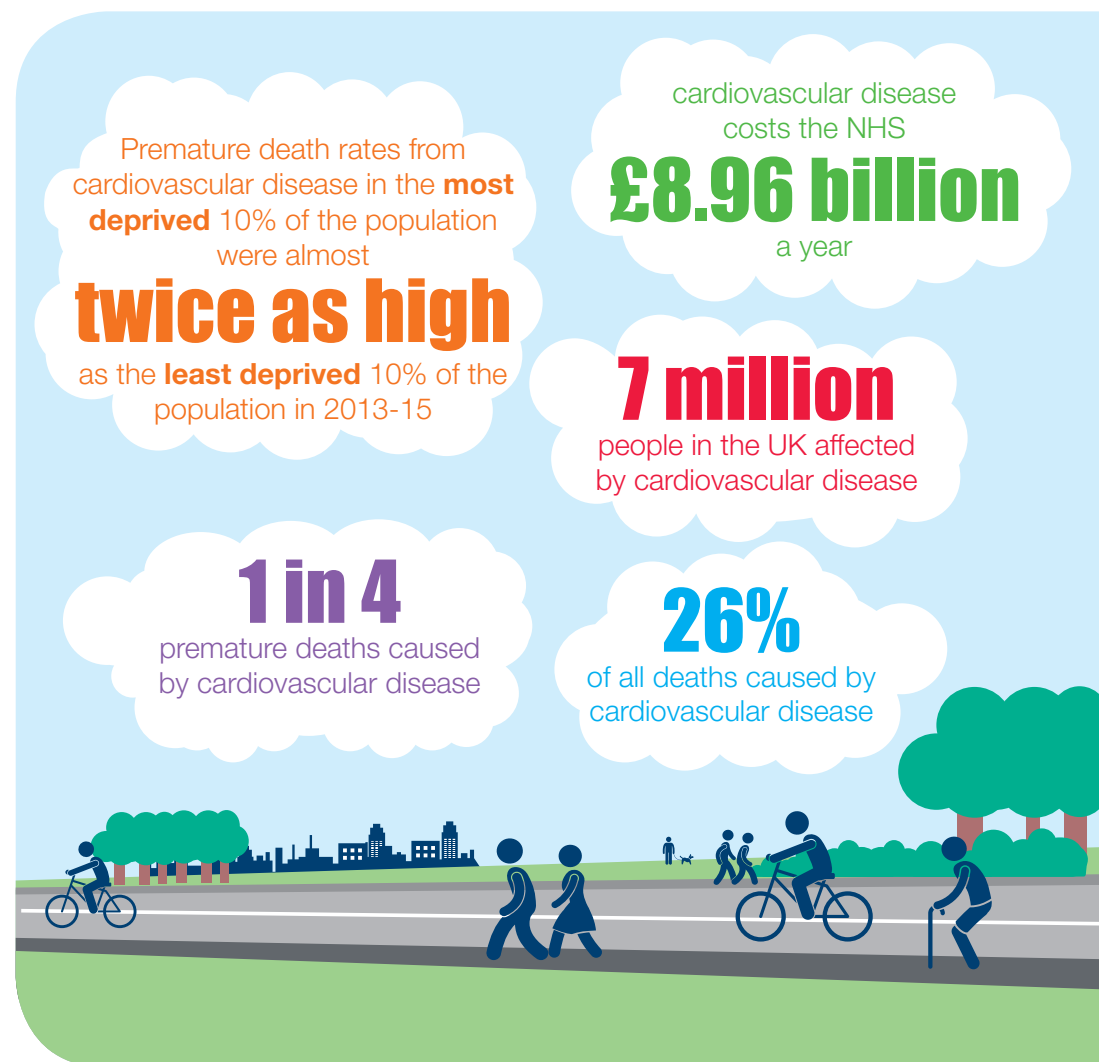
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Introduction

Cardiovascular disease (CVD) is a term that describes a family of diseases with a common set of risk factors and that result from atherosclerosis (furring or stiffening of artery walls), particularly coronary heart disease, stroke and peripheral arterial disease. It also covers other conditions such as vascular dementia, chronic kidney disease, cardiac arrhythmias, type 2 diabetes, sudden cardiac death and heart failure. These conditions often share common risk factors or have a significant impact on CVD mortality or morbidity.

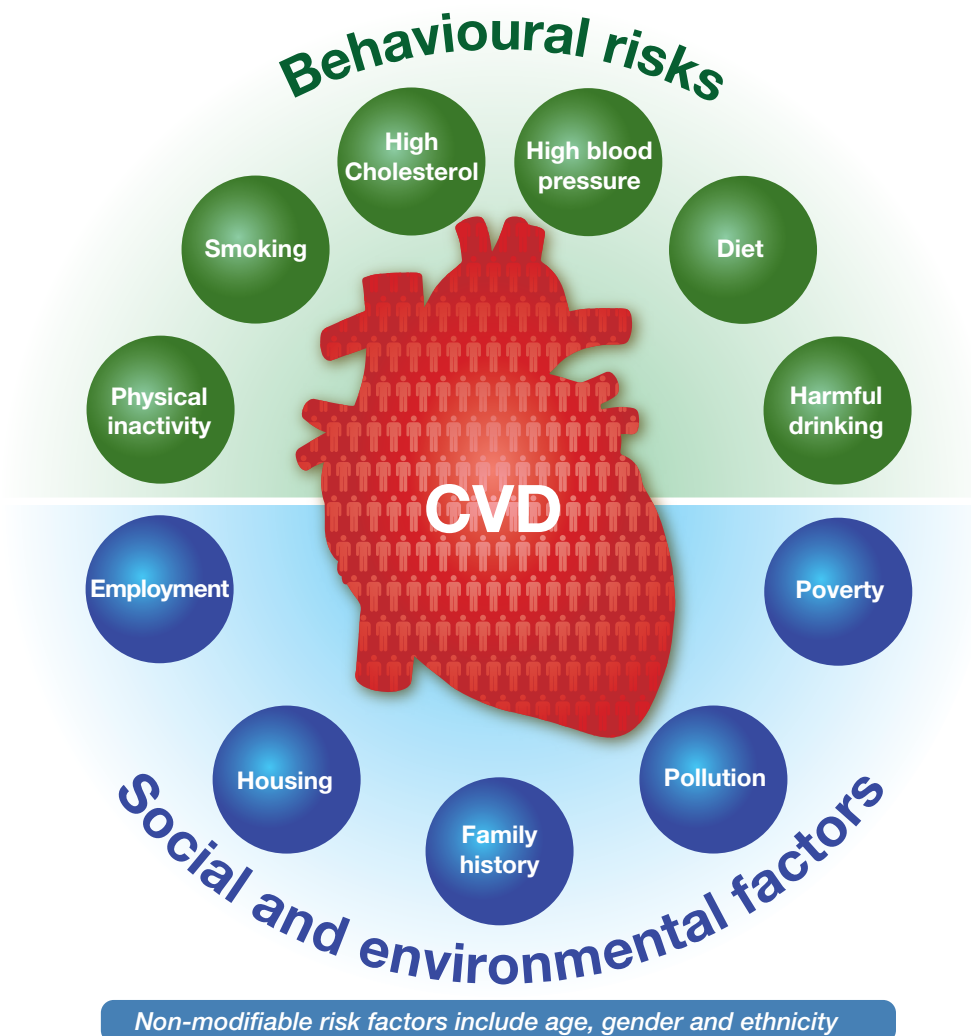
This document sets out some of the key CVD prevention initiatives that Public Health England (PHE) is delivering in the 2017 to 2018 financial year. With actions taking place across the agency and involving multiple stakeholders, this publication demonstrates the agency's continued commitment to CVD prevention. The document is aimed at a broad audience, including those involved in the commissioning and provision of services for cardiovascular disease and its prevention, for example, clinicians, local authorities, service commissioners, public health specialists, the third sector and PHE staff.



Background

Cardiovascular disease affects around seven million people in the United Kingdom (UK) and is a significant cause of disability and death, affecting individuals, families and communities. CVD is responsible for one in four premature deaths in the UK and was responsible for 26% of all deaths (129,147) in England in 2015.¹ Healthcare costs in the UK associated with CVD are estimated at €12.3 billion (~£8.96 billion at the time of the study) and non-healthcare costs estimated at €5.6 billion (~£4.04 billion).² There are a number of different physiological and behavioural risk factors for CVD, including smoking, high cholesterol, high blood pressure, poor diet, harmful drinking and physical inactivity. It is also linked to a range of environmental and social factors, including air pollution and financial inequalities. Premature death rates from CVD in the most deprived 10% of the population are almost twice as high in the least deprived 10%.³

This Action plan follows on from the 2016 PHE publication, [Action on cardiovascular disease: getting serious about prevention](#), which provides an overview of the impact of CVD and PHE's role in CVD prevention. Since the publication of 'Action on cardiovascular disease', commitments to CVD prevention have gathered momentum: it has become a priority for the National Health Service (NHS) Prevention Board, and further actions have been highlighted in the recent [Next steps on the NHS five year forward view](#).



Highlights from 2016 to 2017

'Action on cardiovascular disease' notes PHE's priorities for action in 2016 to 2017. Some highlights of the agency's work to address these priorities in the 2016 to 2017 tax year include the following:

- between 1 April 2016 and 31 March 2017 there were 1.34 million completions of the [One You How Are You quiz](#)
- the sugar reduction and wider reformulation programme is part of PHE's extensive work to contribute to tackling the nation's obesity crisis. In August 2016, government published [Childhood obesity: a plan for action](#), detailing a key commitment for PHE to work towards reducing the amount of sugar, salt, calories and saturated fat in the everyday foods that contribute to intakes
- in 2017 we launched a new [Food Smart App](#), which includes information about saturated fat and salt
- PHE updated the [Heart Age tool](#), which helps people work out their heart age and risk of heart attack and stroke. By June 2017, the tool has been viewed by 2.9 million people, with 1.2 million completions
- in January 2017, we published the new [NHS Health Check Programme: health equity audit guidance](#)
- in December 2016, PHE published [The Public Health Burden of Alcohol and the Effectiveness and Cost-Effectiveness of Alcohol Control Policies: an evidence review](#), which examines the impact of alcohol on public health, including CVD, and the effectiveness of alcohol control policies
- PHE extended its campaign for a truly [Smoke Free NHS](#) contributing to NHS sustainability by providing all patients who smoke with [very brief advice to quit](#)
- PHE partnered with the British Heart Foundation (BHF) to help support clinical leadership. The BHF is developing a network of local communities of practice across England to support quality improvements in CVD prevention and management
- continued provision of intelligence and data through National cardiovascular intelligence network ([NCVIN](#)), including updates and additions to cardiovascular profiles, prevalence models and intelligence packs and a new digital platform providing [CVD data and analysis guidance for health professionals and commissioners](#)

- continued partnership with stakeholders including participation in forums such as the CVD Collaborative, the National Familial Hypercholesterolaemia Steering Group, and hosting the Blood Pressure System Leadership Board
- PHE contributed to key new resources, including the [NHS RightCare CVD prevention pathway](#) (see Appendix A) and made commitments to CVD prevention made in [Next steps on the NHS five year forward view](#)
- developed [Local health and care planning: menu of preventative interventions](#) to inform those involved in health planning and commissioning, including Sustainability and Transformation Partnerships (STPs). STPs are partnerships between the NHS, local councils and other agencies to improve local health and care. The Menu of interventions outlines evidence-based, preventative public health interventions that can help improve the health of the population and reduce health and care service demand in the short to medium term. This includes a section on CVD secondary prevention outlining steps that can be taken to improve management of atrial fibrillation, hypertension (high blood pressure) and raised cholesterol and familial hypercholesterolaemia
- supporting NHS England to develop the national Commissioning for Quality and Innovation (CQUIN) [9. Preventing ill health by risky behaviours](#) - alcohol and tobacco
- commissioned and published the [NHS Health Check rapid evidence synthesis](#)
- national oversight of the [NHS Health Check](#) programme, which saw over 1.3 million people in England having a check in the 2016 to 2017 financial year, helping to identify people at risk of CVD and manage diagnosed conditions
- by June 2017, 22,849 people had taken up the [NHS Diabetes Prevention Programme](#), which helps people at risk of developing Type 2 diabetes
- the PHE-led [NHS diabetic eye screening programme](#) offers regular retinopathy screening to nearly three million diabetics in England, with over 2.5 million taking up the offer of screening in 2016 to 2017. From 2014 onwards, diabetic retinopathy is no longer the leading cause of blindness in in working age adults in England, partly due to the introduction of this screening programme

- PHE, Academic Health Science Network, NHS RightCare and the voluntary sector worked in partnership to strengthen system wide leadership and action on [atrial fibrillation](#) (AF) detection, resulting in 68,093 new AF cases detected. This increase in detection is estimated to have prevented approximately 2,000 AF-related strokes, with an estimated cost saving of over £40 million across the health and social care economy. The national AF-related stroke prevention programme successfully gained consensus on an ambition to reduce the incidence of avoidable AF-related strokes by 5,000 nationally over five years
- PHE was a critical partner in the development and publication of the Pharmacy Voice report, [Tackling high blood pressure through community pharmacy](#)
- in response to the [Sport Strategy](#), PHE and Sport England worked with leaders of the physical activity and healthcare sectors to coproduce a new National Moving Healthcare Professionals programme starting in 2017 to 2018 to increase the knowledge and skills of healthcare professionals to embed physical activity in routine clinical care. It builds on existing developments, such as the publication of the national physical activity framework, [Everybody Active, Every Day](#), the [UK Chief Medical Officer's infographics](#), a [suite of e-learning modules](#) that have been completed over 80,000 times, and the Clinical Champions programme, which has delivered peer training to over 5,000 healthcare professionals.

HOW HEALTHY IS YOUR HEART?

The Heart Age Test:

- Tells you your heart age compared to your real age
- Explains why it's important to know your blood pressure and cholesterol numbers
- Gives advice on how to reduce your heart age

START

Full [terms and conditions](#) can be read here

This tool is a collaboration between NHS Choices, Public Health England, UCL and the British Heart Foundation. [More information about partners](#)

Full [credits](#) can be read here

Role of PHE

PHE plays many different roles in CVD prevention, ranging from providing support and advice to the local public health system regarding the range of suitable interventions available (detail in appendix B), to reviewing and compiling evidence, producing resources and developing programmes, all aimed at improving public health outcomes and reducing health inequalities. PHE's action on CVD can be structured according to the framework of the World Health Organization's six building blocks of an effective health system⁴, as shown right.



Highlights for 2017 to 2018

The initiatives described below represent a diversity of actions taking place in the 2017 to 2018 tax year, including tools and resources for our stakeholders and the public, population level interventions and measures to tackle some of the big CVD risk factors. This is by no means a list of all actions that PHE is committing to on CVD prevention, but highlights some of the agency's critical work in this field. Although activities may overlap across the different pillars of public health action, we have organised them below according to their primary areas of action.



Healthcare financing

Return on investment: Scope the development of a return on investment (ROI) tool across critical CVD risk factors

The substantial effect CVD has on England's population and on the NHS and social care system means that it is imperative we invest in the most cost-effective interventions to prevent CVD from occurring. Yet there are still gaps in the economic evidence for prevention. Furthermore, the pressure on public sector spend fosters a need to regularly review costs and the use of funds. In 2017 to 2018, PHE is scoping the feasibility of building an overarching ROI tool and accompanying report for CVD prevention. This will have the effect of moving away from individual risk condition modelling and aspiring towards modelling the cumulative effect of holistic action on CVD.



Information and research

NHS Health Check: Collect and examine findings from a national data extraction

The NHS Health Check is a national programme offering a health check-up for adults in England aged 40 to 74. One of the largest prevention programmes of its type in the world, the programme is designed to help prevent and detect early signs of heart disease, kidney disease, Type 2 diabetes and dementia. PHE has national oversight for the programme which, between April 2013 and March 2017, has seen 4.9 million people take up their check.

The NHS Health Check Expert Scientific and Clinical Advisory Panel (ESCAP) recently published an [evidence synthesis and report](#) on the research so far. The findings show that the programme can reverse the inverse care law as more people from our most deprived communities have received an NHS Health Check compared to those from our most affluent communities. It is also effective at identifying people living with undiagnosed CVD and risk factors such as hypertension and Type 2 diabetes. At present, however, data is only routinely collected for offers and uptake of the programme. A proposed new data extract in 2018 will aim to provide PHE with the information it needs to monitor the programme, and help local commissioners and service providers address variation by locality and across different patient groups. The data has the potential to help shape the future of the NHS Health Check programme and result in major public health impacts for people across England.

Evidence review: Review of international evidence/case studies on CVD prevention

Understanding ‘what works’ is essential to our CVD prevention work and we are looking closely at the international evidence from case studies as well as what is currently, or has been, implemented in other countries. In 2018, PHE will publish a review of relevant international examples on CVD prevention using a series of in-depth case studies. This will help us to understand the practicalities of implementation, including what has worked well and the key challenges, to be built on or addressed in our own prevention work. This report, whilst relevant to PHE, will also provide evidence on implementation of CVD prevention that will be relevant internationally.

In addition to gathering evidence from practice, we will also look closely at research studies examining the effectiveness of CVD prevention programmes. An initial scoping search has identified more than 50 systematic reviews that are relevant to CVD prevention. This work is currently being scoped further in order to ensure that PHE’s remit in this area is grounded in best available evidence.

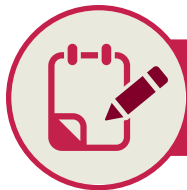
Data: publishing datasets and statistics

PHE will continue to publish datasets and statistical information, including the [Cardiovascular disease profiles](#), as well as working with key partners such as the British Heart Foundation to develop joint data briefings in blood pressure, cholesterol and atrial fibrillation. PHE’s data tools provide invaluable information for health planners and service providers concerning equity and unwarranted variation, as well as the effectiveness and value of healthcare programmes. Other key statistical information includes the [Local Tobacco Control Profiles](#) and [Local Alcohol Profiles](#) for England, which will be updated and continue to inform commissioning and planning decisions to tackle tobacco and risky alcohol use and their related harms. PHE will also continue to use available data to support monitoring and evaluation of prevention programmes, for example, providing analytical support for monitoring implementation of the NHS Diabetes Prevention Programme.

Pollution: review of evidence related to CVD

As the Scientific Secretariat for the Department of Health's expert advisory [Committee on the Medical Effects of Air Pollutants \(COMEAP\)](#), PHE is working with committee members to review the mechanistic and epidemiological evidence linking air pollutants with effects on the cardiovascular system. The committee also intends to estimate the effect of long-term exposure to air pollution on cardiovascular morbidity in the UK.

PHE's work programme on air pollution aims to raise awareness of the effect of pollutants on public health and to further develop the evidence base. PHE works with the Department for Environment, Food and Rural Affairs/Department for Transport Joint Air Quality Unit, which is developing and delivering plans to reduce air pollution in the UK. In 2017 to 2018 PHE has a programme of engagement which supports local authority public health teams, supporting local interventions that have the potential to reduce exposure to air pollution and improve health.



Service delivery

Diabetes: Support the implementation of the NHS Diabetes Prevention Programme

Type 2 diabetes is a significant contributor to a number of conditions, including kidney failure, heart attack and stroke. The treatment of Type 2 diabetes accounts for about 9% of the NHS budget, or about £8.8 billion a year⁵. The [Healthier You: NHS National Diabetes Prevention Programme](#) (NHS DPP) is a joint initiative between NHS England, PHE and Diabetes UK, with an aim of providing personalised help to those at risk of developing Type 2 diabetes. The NHS DPP is a pioneering approach to delivering a behaviour change programme at scale, targeting those at highest risk of developing Type 2 diabetes. Based on systematic review-level evidence, the programme aims to reduce the incidence of Type 2

diabetes through reductions in blood glucose, weight loss and ensuring maximal retention on the programme. As Type 2 diabetes itself, and the behavioural risk factors associated with its presentation, also give rise to increases in CVD, successful implementation will make a significant contribution to CVD prevention. The NHS DPP has an ambitious aim of conducting 100,000 interventions annually by 2020. By April 2018, all STP footprints will have commissioned a provider for the NHS DPP. In the 2017 to 2018 financial year PHE will be working with NHS England to publish data on the current reach of the programme.



Medical products/technologies

PHE is making use of the latest technologies to help provide the public with information and applications to improve their cardiovascular health and wellbeing.

Heart age: Engage over 1 million adults on their heart health by promoting access to the Heart Age Tool

The [Heart Age](#) tool provides the public with an online tool to help them assess their heart age and consider measures to help make changes to improve their heart health. Heart Age has already been viewed by 2.9 million people, with 1.2 million completions to date, demonstrating its impressive reach. Over the course of this year, PHE will work to engage a further 1 million adults to use the tool, including targeted measures to increase its use among those aged 30 to 54.

Primary prevention projects: health campaigns, tools and enablers

Primary prevention projects form a significant part of PHE's ongoing work to tackle CVD. This work is designed to reduce the instances of an illness in a population and to reduce their duration. Key areas of PHE's primary CVD prevention work include alcohol, tobacco and health marketing campaigns. In 2017, further campaigns and information to drive behaviour changes will be added to the [One You](#) adult health programme including a relaunch of the successful Heart Age Tool under the One You programme, promoting uptake of blood pressure checks across the country. Other key campaigns include [Change4Life](#), which aims to improve healthy behaviours and is PHE's flagship programme for preventing childhood obesity, the [Act FAST](#) campaign for stroke prevention, [Stoptober](#), which encourages and supports smokers to join together and quit in October. PHE continues to support a [Smokefree NHS](#) and is developing new applications for use by the public, including a [new physical activity app, Active 10](#) and a digital programme to support family healthy weight behaviours.

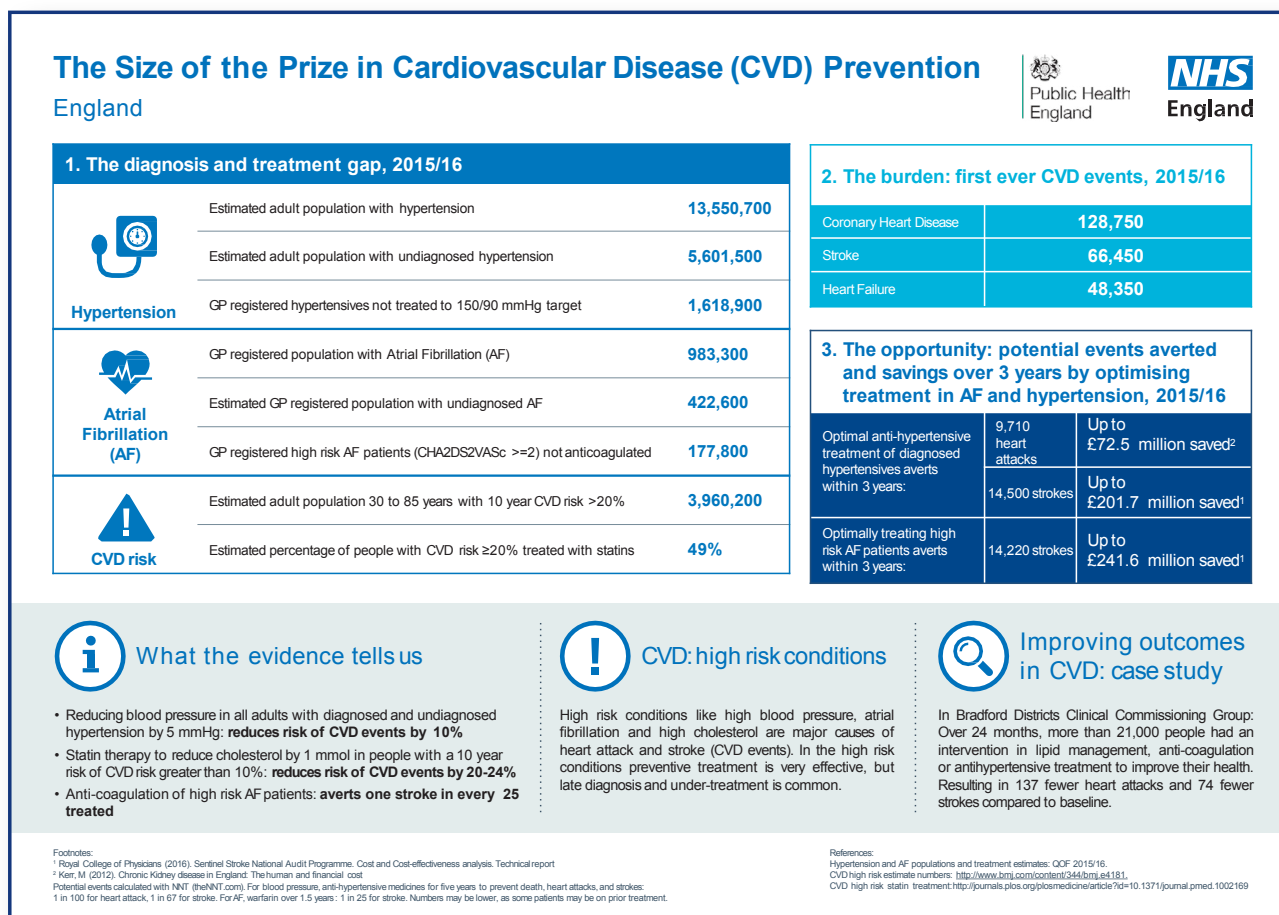


Leadership/governance

Work with NHS England and partners to implement improvements in detection and management of high risk conditions for CVD

PHE is actively involved in major initiatives to support improvements in the scale and impact of CVD prevention interventions, including the STPs and NHS RightCare. STPs present place-based opportunities to make system wide improvements to prevent ill health, address the causes of poor health, and enable communities to lead healthier lives across 44 'footprint' areas. NHS RightCare is designed to improve the quality and efficiency of care while making effective use of current resource, and a key delivery mechanism for this work on CVD is the [CVD prevention pathway](#), being rolled out across England.

PHE's commitment to support the implementation of preventative interventions at scale is further highlighted in [Next steps on the NHS five year forward view](#). PHE will strengthen its work through a CVD prevention programme of work to implement the goals of 'Next steps on the NHS five year forward view', which will involve (1) engaging with and influencing local partners to take action on CVD; (2) supporting implementation of identified preventative interventions; (3) supporting monitoring, evaluation and the development of evidence; and (4) working with national partners on the development of guidance, implementation advice and tools. This work will have an initial focus on secondary prevention, particularly around addressing AF, high cholesterol (including familial hypercholesterolaemia) and high blood pressure, identified as risk factors where significant health gains can be made.



The **size of the prize** in cardiovascular disease prevention in England: opportunities for better diagnosis, treatment and savings.

Population level interventions which will prevent CVD: Reducing salt and sugar in foods

Reducing salt levels in food can contribute to CVD prevention, since excess salt consumption increases the risk of having high blood pressure, a key risk factor for CVD. At a population level there are many environmental factors operating to drive consumers towards less healthy behaviours, including through an unhealthy diet high in salt, fat, sugar and calories. Some individual foods, or types of foods, can provide a substantial amount of salt to the diet. However, for every one gram of salt we cut from our average daily intake, approximately 4,147 premature deaths are prevented and £288 million saved to the NHS each year⁶. Reductions of up to 50% have already been seen in some foods with intakes having reduced by 11%.⁸

In 2016, the Government published its [plan to tackle childhood obesity](#). While the focus of this is to help reduce the high rates of childhood obesity, this may ultimately impact on adult rates of obesity and related health outcomes including CVD. One of the key commitments in 'Childhood obesity: a plan for action' is a sugar reduction and wider reformulation programme (covering calories, salt and saturated fat). PHE is leading this programme to work with industry to remove 20% of sugar from the foods that contribute the most to children's diets by 2020, with 5% taken out in year 1 (by August 2017). The [first technical report](#), including sugar reduction and portion size guidelines, baseline figures for each category and next steps, was published in March 2017. As part of the wider reformulation part of the programme, PHE are now moving on to consider the scope and ambition of the calorie reduction work. Also, during the 2017 to 2018 business year, PHE will consider what further work is needed to help partners achieve the 2017 salt reduction targets; and what action may be necessary following the publication of the Scientific Advisory Committee on Nutrition's report on saturated fat in the first quarter of 2018.

Reducing risky behaviour - smoking and above low risk drinking

Smoking and drinking above low risk are both known risk factors for CVD and we are working nationally and locally to reduce levels of use and reduce harm.

In 2017 the government published the [Tobacco Control Plan for England](#), which aims to reduce smoking prevalence among adults in England and reduce the inequality gap between those in routine and manual occupations and the general population. PHE is at the heart of this effort and is supporting the NHS, clinicians and other system leaders through the provision of data, commissioning and implementation support tools. These tools and resources include [CLear](#) (Challenging services, leadership and results) local tobacco control self-assessment, [training resources](#) for healthcare practitioners and self-assessment frameworks for [acute](#) and [mental health](#) trusts. As part of this we are working hard to support health services to identify smokers and help them to quit including through [implementation support for CQUIN 9: Preventing ill health by risky behaviours - alcohol and tobacco](#) and through the on-going evaluation of evidence on e-cigarettes. Keeping our evidence reviews up to date and shaping the research agenda through the PHE/Cancer Research UK E-Cigarette Research Forum enables us to say with confidence that switching to e-cigarette use is safer than continuing to smoke and is a helpful quit aid.

Reviewing progress

In 2018, PHE will review its progress against these initiatives, as well as other agency actions to help improve CVD prevention.

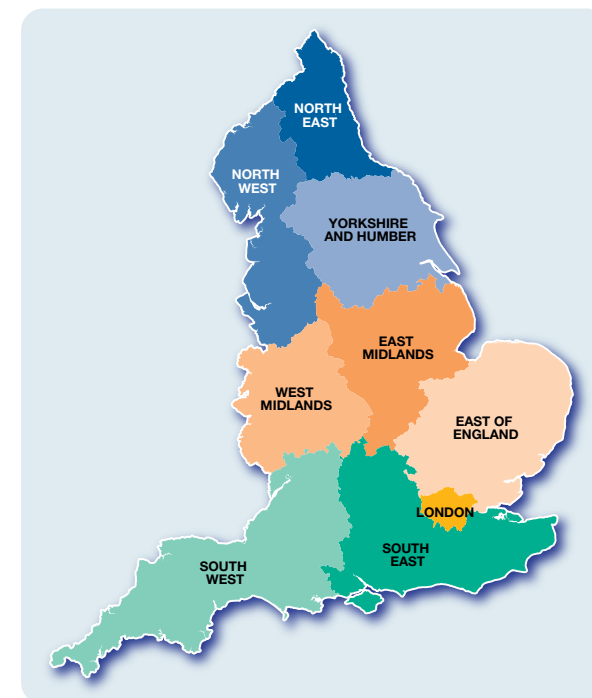
The role of PHE centres and regions

PHE centres and regions have their own activities and engagement strategies to help deliver local improvements to CVD prevention. Centres and regions also have an important role to play in the implementation of the work shown here, which may include:

- raising awareness, promoting and coordinating local action resulting from the launch of the ROI tool and publication of the international review
- working with local partners around best uses of the NHS Health Check data and its implications for public health planning
- supporting local partners to better understand and make use of data and statistics produced by PHE
- engaging with local authorities to deliver better local pollution intervention strategies
- working with local partners to embed the NHS DPP in STPs and help develop strong pathways into the programme
- supporting local partners to implement the national CQUIN 9. Preventing ill health by risky behaviours - alcohol and tobacco

- localised promotion of the Heart Age tool and PHE's primary prevention campaigns
- action to embed CVD prevention in STPs and CCG plans, working with NHS England regional teams, Clinical Networks and RightCare delivery partners
- action to address health inequalities, such as promoting the use of the [NHS Health Check programme: Health equity audit guidance](#)

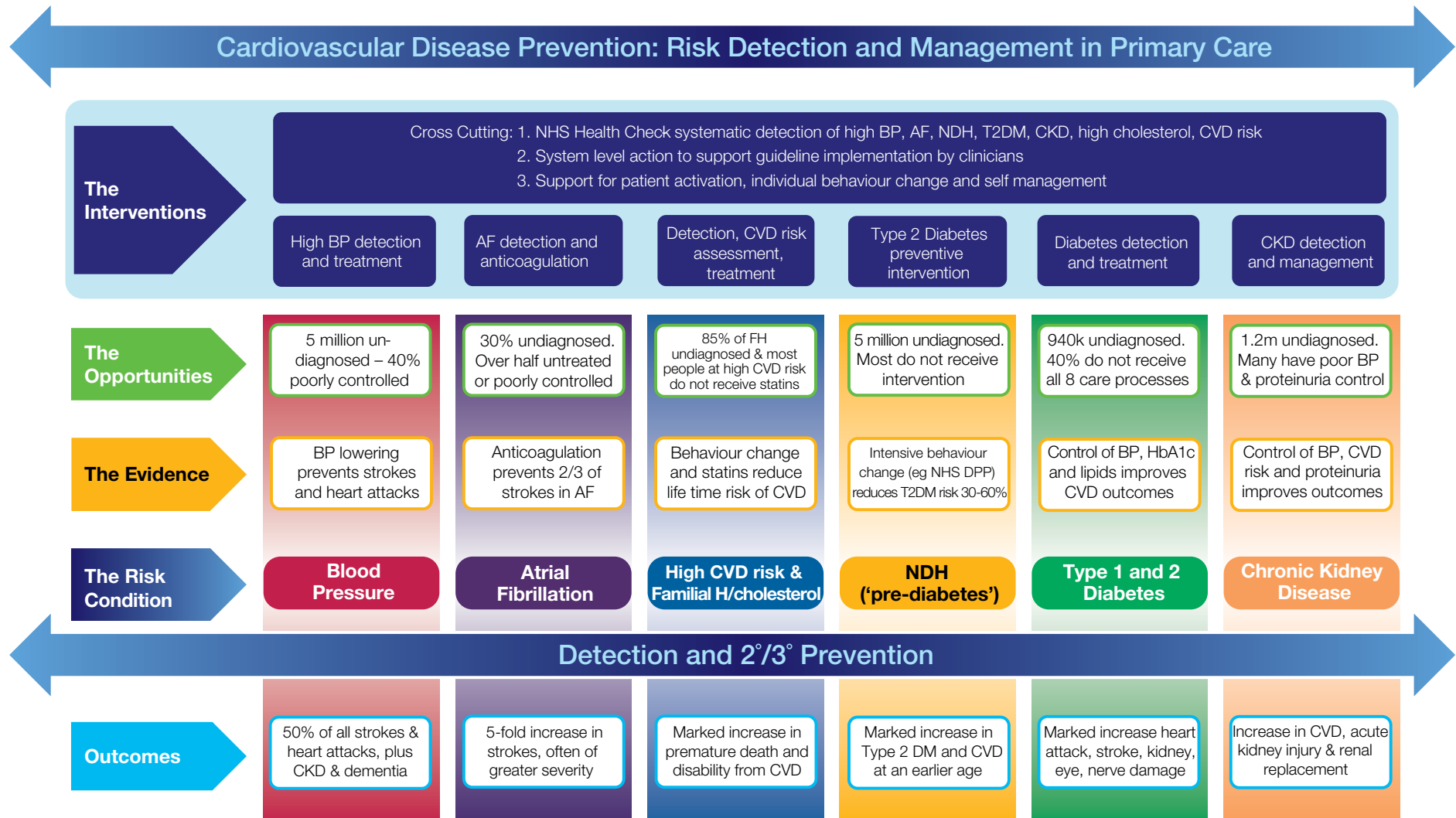
To find out more about PHE's localised CVD prevention work, please [contact your centre or region](#).



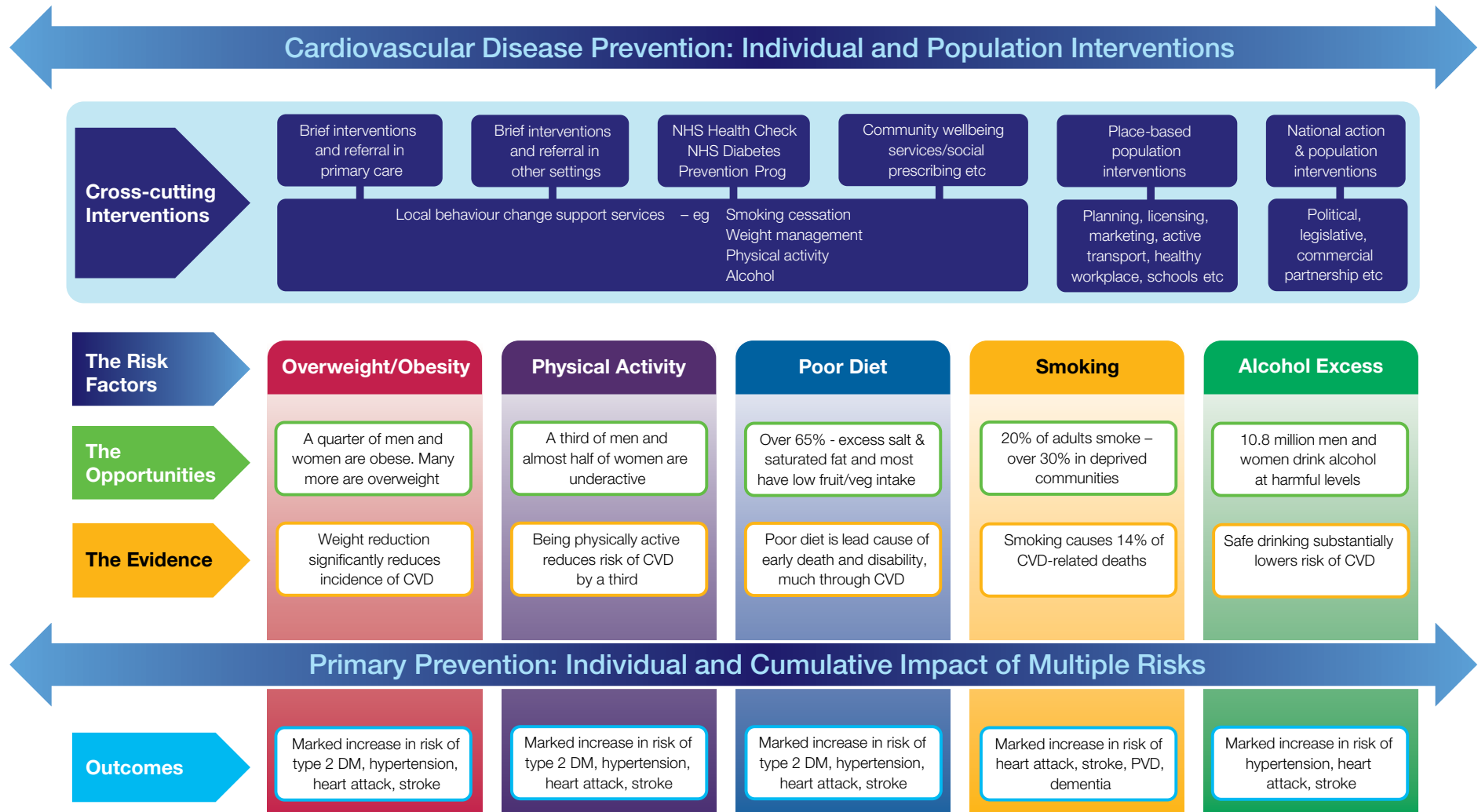
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Appendix A: Cardiovascular disease prevention – risk detection and management in primary care



Appendix B: Cardiovascular disease prevention – individual and population interventions



Additional impact of these risk factors on early death and disability from wide range of physical and mental health conditions

About Public Health England

Public Health England exists to protect and improve the nation's health and wellbeing, and reduce health inequalities. We do this through world-class science, knowledge and intelligence, advocacy, partnerships and the delivery of specialist public health services. We are an executive agency of the Department of Health, and are a distinct delivery organisation with operational autonomy to advise and support government, local authorities and the NHS in a professionally independent manner.

Public Health England
Wellington House
133-155 Waterloo Road
London SE1 8UG
Tel: 020 7654 8000
www.gov.uk/phe Twitter: @PHE_uk
Facebook: www.facebook.com/PublicHealthEngland

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