

# Press release: New ROI tool shows best ways to prevent cardiovascular disease

Public Health England (PHE) has launched a new return on investment (ROI) tool to help local commissioners decide the best approach to preventing cardiovascular disease (CVD) within their populations.

CVD costs the NHS £7.4 billion each year and is one of the leading causes of death and disability in England, with deprived communities at greatest risk. Reducing the burden of CVD on local populations is an important step to helping people stay in work, boosting the local economy and lowering the future demand on health and social care settings.

The majority of CVD is preventable through identifying and managing risk earlier. The ROI tool shows the health and cost impacts of using different interventions to treat people at high risk of CVD, helping commissioners decide how their budget is best spent to improve local health outcomes. It also shows the effectiveness of different approaches to detecting and managing people with high risk conditions.

Professor Jamie Waterall, National Lead for Cardiovascular Disease Prevention at Public Health England, said:

We're seeing the number of people with long-term conditions, such as diabetes, continue to rise which means prevention should be high on the agenda for the NHS. That is why this new tool is hugely useful in helping decision-makers make better choices about CVD prevention, based on the best evidence of what works. It will help commissioners plan effective CVD prevention strategies and make the most of their budgets to help more people live healthier, longer lives.

The ROI tool is the latest from PHE's health economists underlining why investment in prevention is important to both the long term health of the population and the long term sustainability of the NHS. Assessments can be made at national, local authority, clinical commissioning group, or sustainability and transformation partnerships level.

Publication of the ROI tool coincides with a new [Global Burden of Disease study](#) highlighting the importance of national and local policies targeting prevention to tackle premature mortality. The study supports calls for renewed efforts to run systematic programmes to reduce chronic disease risk factors, including high blood pressure and high cholesterol.

The ROI tool lets users see predicted impacts of different interventions in terms of costs saved and the number of CVD events and premature deaths prevented. Analysis shows that optimising the use of statins and hypertensives could bring some of the most considerable cost-savings. The

tool also highlights the importance of identifying risk earlier, with the earlier identification of diabetes predicted to provide the highest long-term benefits in terms of CVD events prevented and costs saved.

PHE commissioned the University of Sheffield to develop the tool, following an evidence review and in consultation with an expert steering group.

Dr. Matt Kearney, GP and National Clinical Director for Cardiovascular Disease Prevention at NHS England, said:

Heart attacks and strokes are life-changing events for sufferers and their families, and the NHS long term plan will set out a strategy for cardiovascular disease prevention and care. Thankfully these conditions are highly preventable and minimising their impact is not just good for patients but also benefits taxpayers who fund the NHS.

This return on investment tool will show health professionals in each part of the country how heart problems and strokes could be prevented, and how much health service resource could be freed up for reinvestment if we increase detection and treatment of high-risk conditions like atrial fibrillation, high blood pressure and high cholesterol.

Professor Brian Ferguson, Chief Economist at Public Health England, said:

This is a great addition to the suite of tools we've produced to support commissioners in local systems. It's the first one that allows users to consider combinations of interventions, and so better reflects the reality of complex care needs. The results demonstrate that investing at scale in the most cost-effective preventative activities can deliver significant health benefits.

The [tool](#) and the [accompanying report](#) can be accessed online.

Commissioners can read [further PHE advice on how to make the most of their budgets](#).

To find out more about the CVD ROI tool contact PHE's [Health Economics team](#).

## Background

1. Interventions were chosen for inclusion in the tool if they were recommended by NICE for individuals without pre-existing CVD and if there was high quality and recent effectiveness evidence available. Selected detection interventions included NHS Health Checks, annual review in people with a pre-existing condition, cascade testing for FH and opportunistic detection. Selected management interventions included

pharmacological interventions (antihypertensives, lipid modification therapy, anticoagulants and blood glucose lowering), lifestyle interventions (NHS diabetes prevention programme (DPP), diabetes structured education, weight management, smoking cessation, nutritional advice for CKD) and interventions that improve adherence to pharmacological interventions (blood pressure self-monitoring, insulin pump and medicines use review). A series of additional reviews were carried out to inform other intervention parameters including costs and duration of effect.

2. The tool was developed with input from a tool user group who provided information about local priorities for CVD and their requirements for a CVD prevention ROI tool. The tool design enables users to see the potential benefits of either improving detection and/or management of one or more high-risk conditions, or of improving the usage of one or more of the key interventions for people at risk of CVD. The tool is designed to include both the direct costs and benefits of implementing chosen scenarios and the indirect consequences, for example the increased cost of management that will occur as a response to increased diagnosis of high risk conditions.
3. The University of Sheffield developed the ROI tool based on a modification of an existing type 2 diabetes prevention model (The School for Public Health Research (SPHR) Diabetes Prevention Model), which has been previously used as the basis of a PHE tool to model the ROI of the NHS Diabetes Prevention Programme.
4. The tool includes demographic information about local populations, so that the outcomes are area-specific. Users can select localities of interest from the full range of CCGs, STPs and local authorities in England, or for the whole of England.
5. Primary prevention of CVD is not considered by the tool. However there is the functionality for users to assess the impact of additional interventions that are happening in their local area if they have information on effectiveness of the intervention.
6. Uncertainty analysis is not included in the tool, but it is important to note that there will be some uncertainty around estimates.
7. The tool lets users see the benefits of interventions around 6 CVD high risk conditions, identified by the NHS RightCare Optimal Pathway as currently underdiagnosed and insufficiently managed despite a range of available interventions, and therefore representing targets for improvement:

- high blood pressure
- atrial fibrillation (AF)
- high cholesterol/high CVD risk including familial hypercholesterolemia (FH)
- diabetes (type 2 and type 1)
- non-diabetic hyperglycaemia
- chronic kidney disease (CKD)

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