NICE National Institute for Health and Care Excellence

NICEimpact *cardiovascular disease prevention*

NICEimpact *cardiovascular disease prevention*

Around 7 million people in the UK are affected by cardiovascular disease (CVD). This report considers how NICE's evidence-based guidance can contribute to improvements in the prevention of CVD.

This report highlights progress made by the healthcare system in implementing NICE guidance. We recognise that change can sometimes be challenging, and may require additional resources such as training, new equipment or pathway reconfiguration.

We work with partners including NHS England and NHS Improvement to support these changes, and we also look for opportunities to make savings by reducing ineffective practice.

Changing behaviour to reduce risk p4

Focusing on behaviour change can reduce the incidence of CVD and, in turn, help to prevent other major causes of death and illness. We have looked at how NICE recommendations on obesity, smoking and physical activity can help reduce CVD risk at the population and individual level.

Diagnosing and managing 6 high-risk conditions p6

NHS RightCare has identified 6 high-risk conditions which are major causes of CVD events such as heart attack and stroke. We have reviewed how NICE recommendations are used to identify and manage high blood pressure (p7), high cholesterol (p8), atrial fibrillation (p11), chronic kidney disease (p13), high blood sugar (pre-diabetes) (p14) and diabetes (p15) to reduce CVD risk. We have also looked at how NICE and our partners in the system are working together to put these recommendations into practice.

Spotlight on severe mental illness p17

Severe mental illness is also linked with an increase in CVD risk. We have considered how NICE recommendations can contribute to improving the physical health of people with severe mental illness.

Commentary p18

Jamie Waterall reviews recent achievements and considers NICE's role in contributing to improvements in the prevention of CVD.

Why focus on CVD prevention?

CVD is a general term for conditions affecting the heart or blood vessels. It's usually associated with a build-up of fatty deposits inside the arteries (known as atherosclerosis) and an increased risk of blood clots. It can also be associated with damage to arteries in organs such as the brain, heart, kidneys and eyes.

Heart disease and stroke are the most common forms of CVD. Other forms include a 'mini-stroke' (transient ischaemic attack or TIA) and peripheral arterial disease (narrowing of the arteries, usually in the legs).

NICE impact reports review how NICE recommendations for evidence-based and cost-effective care are being used in priority areas of the health and care system, helping to improve outcomes where this is needed most.

NICE provides evidence-based guidance and advice to help improve health and social care services. The uptake of NICE guidance is influenced by close relationships with partners in the system, such as NHS England and Public Health England (PHE). **Next steps on the NHS Five Year Forward View** was commissioned by NHS England to set out a series of practical and realistic steps to deliver a better, more joined-up and more responsive NHS. A particular focus of the report is prevention.

Next Steps on the Five Year Forward View highlights that CVD is highly preventable through evidence-based treatments for high risk conditions. NHS RightCare and PHE have established a **CVD prevention pathway** and so, in this report, we have focused on what we know about the uptake and impact of our recommendations in this area.

NICE published its first CVD guideline, on hypertension, in 2004. Since then we have produced a **suite of guidance and advice on the diagnosis and management of cardiovascular conditions** such as acute coronary syndromes, heart failure, and venous thromboembolism. However, because the focus of this report is CVD prevention, we have looked at a broad range of NICE guidance on conditions that increase the risk of CVD, such as diabetes, and risk factors that can be altered, such as obesity.

We routinely collect data which give us information about the uptake of our guidance. To produce this report, we have worked with national partners to select data which tell us how NICE guidance can make a difference in priority areas of CVD prevention. The data also highlight areas where there remains room for improvement.

26%

26% of all deaths in the UK are caused by CVD

Changing behaviour to reduce risk

NICE's guidance on CVD prevention at the population level is complemented by a suite of guidance recommending interventions to help people stop smoking, eat a better diet and increase their physical activity.

The proportion of people who smoke continues to reduce, but data suggest that more could be done to implement NICE's recommendations on preventing smoking in schools and in secondary care settings.

There is wide regional variation in the proportion of people who are overweight or obese and more than 1 in 5 adults report getting less than 30 minutes of moderate intensity activity each week. These data suggest that more could be done to help people manage their weight and get physically active.

Poor diet, physical inactivity and smoking are risk factors for CVD. Behaviour change at the population and individual level can reduce the incidence of CVD.

In June 2010, NICE published a guideline on **CVD prevention**, covering the main risk factors linked with cardiovascular disease such as poor diet, physical inactivity and smoking. It aims to reduce the high incidence of CVD through interventions at the population level. It is complemented and supported by a range of NICE guidance recommending interventions focused on changing individual behaviour. In this section of the report we have looked at the uptake and impact of some of these recommendations.

Smoking

Quitting smoking is described by the British Heart Foundation (BHF) as **the single best thing you can do for your heart health**. NICE's first public health guideline was on **smoking: brief intervention and referrals**, published in 2006. We have since published a range of guidance and advice on **smoking and tobacco**, aiming to prevent people from taking up smoking, reduce harm and help people quit. Data from the **Public Health Outcomes Framework** (PHOF) show the proportion of people who smoke in England continues to reduce each year; 15.5% of adults smoked in 2016, down from 19.3% in 2012.

The NICE guideline on **smoking prevention in schools** aims to prevent children and young people under 19 from taking up smoking. In 2016, NHS Digital published a report on **smoking, drinking and drug use among young people in England** which found that 19% of children aged 11 to 15 had tried smoking at least once, down from 23% in 2012. Nearly all schools reported providing pupils with lessons about smoking, as recommended by NICE. However only 60% of pupils recalled a lesson on smoking in the last year and only 59% of pupils felt they received enough information about smoking.

Percentage of children aged 11 to 15 who have tried smoking at least once

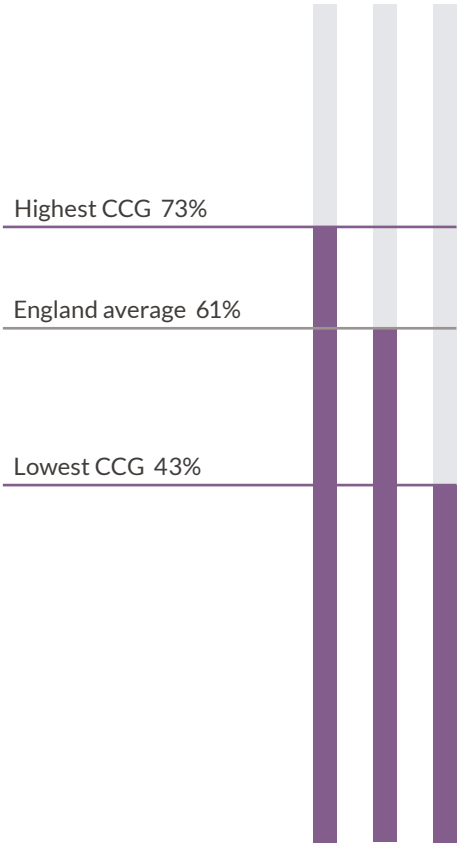
23%
2012

19%
2016

NICE's guideline on **smoking in acute, maternity and mental health services** promotes smokefree policies and recommends how to help people stop or abstain from smoking in these settings. In 2016, the British Thoracic Society carried out a **smoking cessation audit** of nearly 15,000 inpatients which gave us information about the uptake of these recommendations.

NICE recommends that everyone who comes into contact with a healthcare professional should have their smoking status recorded and, if they are a smoker, be offered advice on how to quit. The audit found that, although smoking status was recorded in 73% of inpatient records, only 28% of current smokers were asked if they'd like to quit. Of these, just 20% were referred to a hospital smoking cessation service.

Percentage of adults classed as overweight or obese in England, 2015/16



Diet and obesity

Poor diet and obesity also increase the risk of CVD. NICE published a guideline on **obesity prevention** in 2006 and since then we have published a suite of guidance and advice on **diet, nutrition and obesity**. The guidance aims to prevent children, young people and adults from becoming overweight or obese. It also covers identifying, assessing and managing obesity, and referral to lifestyle services.

The PHOF records the proportion of people who are overweight or obese in England. In 2016/17, 23% of children aged 4 to 5 were classed as overweight or obese and, in 2015/16, 61% of adults were overweight or obese according to their BMI. However, there is wide regional variation in these rates. In children aged 4 to 5, the percentage classed as overweight or obese ranged from 15% to 28% in CCGs across England, and the range for adults is even wider.

Physical activity

Being active also helps reduce the risk of CVD and NICE has produced a suite of guidance aimed at increasing **physical activity**. PHE's **indicators** show that 22% of adults in England report getting less than 30 minutes of moderate intensity physical activity each week. NICE's guideline on **walking and cycling** aims to help people achieve recommended physical activity levels. PHE's indicators show that only around half the adults in England say they walk at least 5 times a week for 10 minutes or more. These data suggest that there is room for improvement in many people's activity levels.

Diagnosing and managing 6 high-risk conditions

Data show that 60% of people under 80 with hypertension achieve the NICE recommended blood pressure target but only 9% had a recorded assessment of physical activity.

NICE's updated recommendation for offering statins appears to be associated with a change in prescribing practice. An increasing proportion of people with atrial fibrillation and a risk score above 2 are receiving anticoagulation as recommended by NICE.

For people with diabetes, NICE recommends structured education to help them manage their condition. While most people are referred soon after diagnosis, data suggest that attendance at these programmes may be poor in adults.

High blood pressure, high cholesterol, atrial fibrillation, chronic kidney disease, high blood sugar (pre-diabetes) and diabetes are major causes of CVD events such as heart attack and stroke. Late diagnosis and under-treatment is common.

Recent analysis by PHE suggests that there is an opportunity to prevent more than 9,000 heart attacks and at least 14,000 strokes over the next 3 years with better diagnosis and management of high blood pressure, high cholesterol and atrial fibrillation.

PHE and NHS RightCare have produced a **CVD prevention pathway**, focusing on high impact interventions to deliver improvement in the diagnosis and management of these conditions as well as diabetes, pre-diabetes and chronic kidney disease. NICE is working with NHS RightCare to support the use of NICE guidance and other products during the development of this and other **NHS RightCare Intelligence products** such as optimal value pathways, high impact interventions and logic models.

In this section of the report, we have considered the uptake of NICE's recommendations for the diagnosis and management of these 6 high-risk conditions. We have also looked at examples of NICE's recommendations being used in practice to support the CVD prevention pathway.

Helping GPs identify and manage the 6 high-risk conditions

In collaboration with the BHF, PHE and NHS England, NICE is supporting the development of a CVD prevention audit and decision aid tool based on NICE recommendations. The tool will be embedded in GP systems and aims to identify people with one or more of the 6 high-risk conditions undiagnosed or sub-optimally managed, putting them at increased risk of CVD.

The tool will provide decision support in the form of built-in prompts to assess risk or optimise management and will allow reporting at regular intervals in order to monitor progress. It will be fully aligned with NICE guidance for each of the 6 conditions and will support the NHS RightCare CVD prevention pathway.

1 High blood pressure – hypertension

There are opportunities to improve the diagnosis and management of high blood pressure, also known as hypertension. The CVD prevention pathway highlights that there are an estimated 5 million people with undiagnosed high blood pressure. Of those with a diagnosis, 40% have poorly controlled blood pressure.

Reducing blood pressure to a recommended target range reduces the risk of cardiovascular events. NHS England's **Size of the Prize** analysis estimates that, over a 3 year period, optimal treatment of hypertension could prevent 9,710 heart attacks and 14,500 strokes, saving the NHS up to £274.2 million.

5m

5 million people have undiagnosed hypertension

NICE's guideline on **hypertension in adults: diagnosis and management** focuses on identifying and treating primary hypertension in people 18 and over. It aims to reduce the risk of cardiovascular problems such as heart attacks and strokes by helping healthcare professionals to diagnose hypertension accurately and treat it effectively.

NICE recommends that people under 80 with diagnosed hypertension should aim for a target clinic blood pressure below 140/90 mmHg. For people aged 80 or over, the NICE recommended target is 150/90 mmHg or below. The **Quality and Outcomes Framework** (QOF) records the proportion of all people with a diagnosis of hypertension who achieve a target clinic blood pressure of 150/90 mmHg or below; this was 80% in 2016/17.

However, data from the **Indicators no longer in QOF** (INLIQ) show that only 60% of people aged under 80 achieved the NICE recommended target clinic blood pressure of 140/90 mmHg or below in 2016/17. This suggests that more work is needed to ensure that those aged under 80 are able to meet their target blood pressure.

Lifestyle factors can have a large effect on CVD risk, and increased physical activity can help to manage hypertension. NICE's guideline on **physical activity: brief advice for adults in primary care** aims to improve health and wellbeing by raising awareness of the importance of physical activity and encouraging people to increase or maintain their activity level. The guideline recommends that adults who are not

Dudley CCG identified a large gap between the reported and expected prevalence of hypertension in their local area. To address this, they developed a **local pathway** *based on NICE guidance, which covers screening, diagnosis, treatment and referral options for people with, or suspected of having, hypertension. They described their process in a* **NICE shared learning example**.

As a result of this work they diagnosed over 1,000 new people with hypertension over 2 years. Dudley CCG have estimated that, for each additional 1,000 people whose blood pressure is controlled, 16 strokes and 12 heart attacks could be prevented each year.

currently meeting the UK physical activity guidelines should be identified during a consultation with a primary care practitioner or as part of a planned session on management of long term conditions. Adults who are assessed as inactive should be advised to do more physical activity, and the benefits of this should be emphasised.

Nearly half of people with hypertension who were assessed for physical activity received a score of 'less than active'

Data from INLIQ show that only 9% of people with hypertension aged 16 to 74 had an assessment of physical activity in the last 12 months. Nearly half of those assessed received a score of 'less than active'. This suggests that there are opportunities for improvement in the identification of people who are not active enough, as part of their hypertension management.

Systematic case finding of people with hypertension

NICE works with a community of medicines and prescribing associates to support and promote high quality, safe, cost-effective prescribing and medicines optimisation in their local health economies. One of these associates supported a project aimed at increasing diagnosis rates for hypertension in East Berkshire, which is described in a NICE shared learning example.

The project was carried out by members of the CCG Medicines Optimisation Team (MOT), who worked with GP practices to find people through audit who either had hypertension or were at risk of developing hypertension. MOT pharmacists then added people with hypertension to disease registers or referred people not yet diagnosed for diagnosis and QRISK2 assessment as recommended by NICE.

After 12 months there was a 12% increase in the number of people diagnosed with hypertension, a significantly higher increase than in the previous 2 years and a bigger increase than any other CCG in England. Over 4,000 people who were added to the register in 2017 achieved a blood pressure target of 150/90 mmHg by the end of the year.

2 High cholesterol – hypercholesterolaemia / familial hypercholesterolaemia (FH)

People with high cholesterol due to lifestyle factors or a genetic condition such as FH are at a greater risk of cardiovascular events. The CVD prevention pathway highlights that 85% of those with FH are undiagnosed and most people with high cholesterol do not receive cholesterol-lowering medicine such as statins or PCSK9 inhibitors.

NICE has produced a patient decision aid to help people make up their mind whether or not to take a statin to help reduce their risk of having a heart attack or developing angina (together called coronary heart disease or CHD), or of having a stroke.

Statin initiation

With such a high percentage of people with high cholesterol undiagnosed, risk scoring and subsequent statin initiation is particularly important. In July 2014, NICE published an updated guideline on cardiovascular disease: risk assessment and reduction, including lipid modification. It contains recommendations for using the QRISK2 tool to identify people who are at risk of CVD and offering statins to reduce their risk.

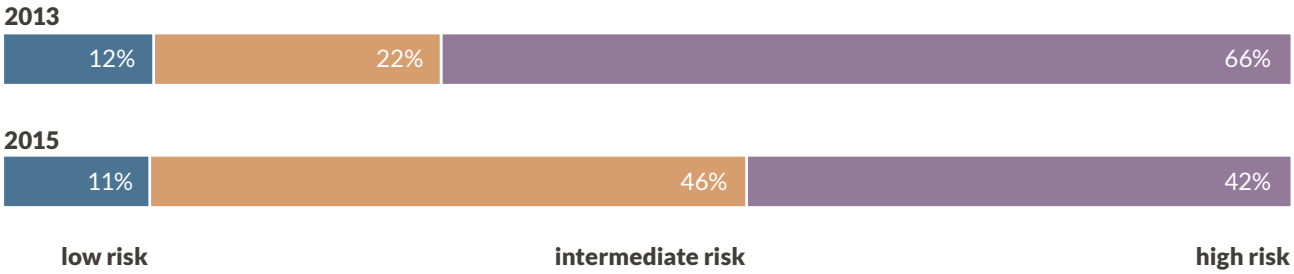
The updated guideline reduced the CVD risk threshold for offering statins from a previous NICE recommendation. NICE now recommends that people with a 10% or greater 10-year risk of developing CVD are offered statins, while the previous guideline recommended a threshold of 20%.

NICE's updated guideline recommends offering statins to people with a 10% or greater 10-year risk of developing CVD

A paper published in the British Journal of General Practice looked at risk scoring and the initiation of statins for the primary prevention of CVD. It aimed to identify the effect of the NICE guideline update. The analysis included 1.4 million patients from 248 GP practices. It showed that, between 2012 and 2015, 73% of people initiated on a statin did not have a QRISK2 score recorded at any time.

Of those who had a QRISK2 score recorded, the proportion of statin initiations by risk group changed following the publication of the updated guideline. In this analysis, people with a QRISK2 score between 10% and 19.9% were defined as being at intermediate risk. Since NICE recommended that statins should be offered to people with a 10% or greater 10-year risk, the proportion of statin initiations which are in people at intermediate risk has increased.

The proportion of statin initiations by QRISK2 risk category before and after the 2014 NICE guideline update



(Finnikin S, Ryan R, Marshall T (2017) Statin initiations and QRISK2 scoring in UK general practice: A THIN database study. *British Journal Of General Practice* 67 (665) 881-7)

'Despite my fit and active life as a police officer, at the age of 35 I had a heart attack and shortly afterwards I was discharged as medically unfit. I've since had a triple bypass, five stents, a redo bypass and a replacement aortic valve despite travelling from Salisbury to Cardiff fortnightly for 26 years to receive LDL apheresis.

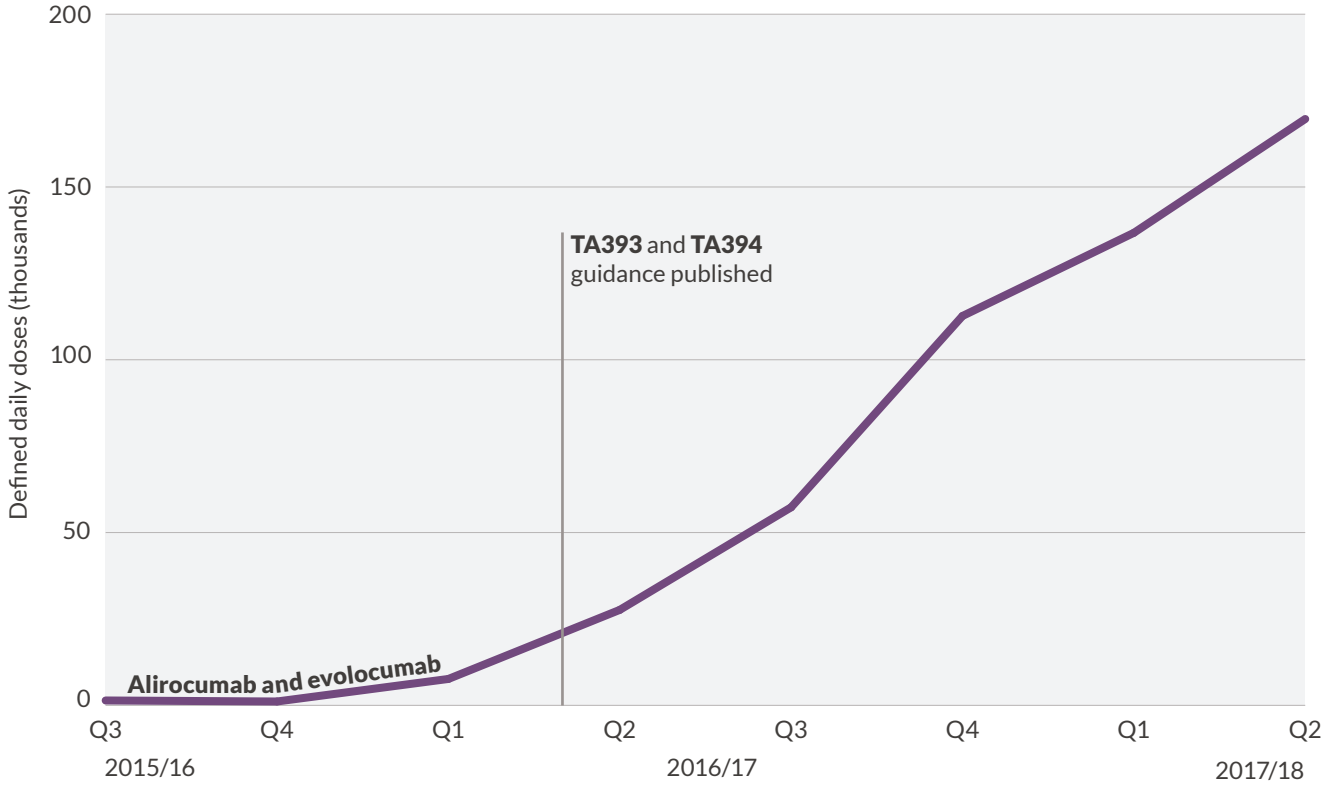
In 2016, I took part in trials for the new PCSK9 inhibitors which was so successful in lowering my LDL-cholesterol that rather than the fortnightly trips to Cardiff I now self-administer PCSK9 inhibitors at home, vastly improving my quality of life.' David, Heart UK ambassador

PCSK9 inhibitors

In June 2016, NICE recommended 2 new cholesterol-lowering medicines, alirocumab and evolocumab, for treating primary hypercholesterolaemia and mixed dyslipidaemia. They are recommended for people whose low-density lipoprotein (LDL) concentrations are not adequately controlled on other lipid-lowering medication, such as statins, or who cannot tolerate other treatments. LDL carries cholesterol to the cells that need it but, if there's too much cholesterol for the cells to use, it can build up and lead to CVD. For this reason, LDL is often known as 'bad cholesterol'.

Alirocumab and evolocumab are PCSK9 inhibitors, which help receptors in the liver keep working to lower cholesterol levels in the blood. Data from the Innovation Scorecard show an increase in the prescribing of these medicines over time.

Prescribing of PCSK9 inhibitors for treating primary hypercholesterolaemia or mixed dyslipidaemia



The Innovation Scorecard estimates report estimates the number of people to be treated with medicines recommended by NICE. The report then compares expected uptake to the actual volume of medicines used. While prescribing of alirocumab and evolocumab has increased, the most recent report estimates that the volume of these 2 medicines used from July to September 2017 was 62% lower than expected. Barriers to uptake may include identification of appropriate patients, a lack of locally agreed referral pathways and varied funding approaches. This suggests that many more people could benefit from PCSK9 inhibitors.

A news story released at the time of publication received almost 2,000 views and the updated guideline received extensive media coverage, with more than 30 pieces published. The coverage was positive, suggesting that the guidance was well received.

Familial hypercholesterolaemia

In November 2017, NICE updated the guideline on familial hypercholesterolaemia: identification and management. It contains recommendations on identifying and managing FH, a specific type of high cholesterol that runs in the family, in children, young people and adults. It aims to help identify people at increased risk of coronary heart disease as a result of having FH.

NICE has co-produced an implementation resource in collaboration with PHE, NHS England, BHF and Heart UK. The resource aims to provide practical support to organisations, helping them to identify the gaps in the provision of FH services in their local area, and helping them address these gaps in line with the recently updated NICE guidance.

3 Atrial fibrillation (AF)

AF is associated with an increased risk of stroke. The CVD prevention pathway highlights that 30% of people with AF are undiagnosed. Of those with a diagnosis, over half have untreated or poorly controlled AF.

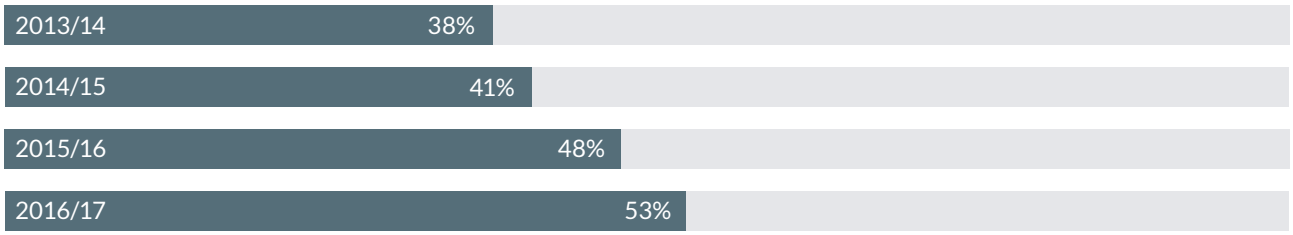
NICE has produced a patient decision aid to help people with AF reach a decision about whether to take an anticoagulant to reduce the risk of stroke, and which one to take if they decide to do so.

For people with AF who are assessed at being at risk of stroke, NICE recommends offering anticoagulants, which prevent the blood from clotting and can be highly effective at reducing the risk of cardiovascular events. The CVD prevention pathway estimates that anticoagulants prevent two thirds of stroke in people with AF. There are also potential savings for the NHS by preventing emergency admissions to hospital.

In June 2014, NICE published an updated guideline on **atrial fibrillation: management.** It contains recommendations on the diagnosis and management of AF in adults and aims to prevent harmful complications, in particular stroke. To help assess the risk of stroke it recommends the use of the CHA_2DS_2-VASc tool.

Data from QOF show that, in 2015/16, 94% of people with AF were risk assessed using this tool. Of those risk assessed, an increasing proportion of people, 78% in 2015/16 and 81% in 2016/17, with a CHA_2DS_2-VASc score of 2 or more received anticoagulation therapy as recommended by NICE.

The percentage of people with AF prescribed anticoagulation before having a stroke



However the **Sentinel Stroke National Audit Programme** (SSNAP) records the percentage of people with AF prescribed anticoagulation before having a stroke. The data show that the percentage has increased, but only just over half received anticoagulants before having a stroke in 2016/17. This highlights that some people at risk of stroke are potentially not receiving anticoagulation medicine as recommended by NICE. The audit report suggests that, if everyone with AF was treated with anticoagulants appropriately, then about 6,000 strokes would be prevented each year.

Increasing anticoagulation in AF through pharmacist led virtual clinics in primary care

Working with Lambeth CCG and Southwark CCG in South London, NICE's medicines and prescribing associates have supported a project to increase the uptake of anticoagulation in patients with AF who are at risk of stroke.

Following NICE's guideline on the management of AF, the project aimed to ensure that all patients on the QOF AF register had an assessment of stroke risk using CHA_2DS_2-VASc, and were offered anticoagulation if at risk of stroke. Any patients currently treated with aspirin for AF-related stroke prevention were reviewed. Education of practice staff was also promoted.

Specialist anticoagulation pharmacists reviewed 1,340 patients in virtual clinics over an 11 month period and provided anticoagulation therapy to an additional 1,292 patients. Across the 2 CCGs 81% of high risk AF patients are now receiving anticoagulation, an increase of 19%. As a result it is estimated that the CCGs will see up to 45 AF-related strokes prevented each year.

4 Chronic kidney disease (CKD)

Good management of CKD can improve CVD outcomes. The CVD prevention pathway highlights that many of those with CKD have poor blood pressure control and poor proteinuria control (an increase in amount of protein in the urine). This is a significant risk factor for CVD. In addition, 1.2 million people with CKD are undiagnosed.

Data from the National CKD Audit show that, in 2016, 69% of people with identified CKD received statins in line with NICE guidance. Lower uptake of these recommendations was seen among younger people without diabetes, a group that may have the most to gain from statin therapy for CVD prevention.

The National CKD Audit shows that people with CKD stages 3-5 (the more severe stages) are often hospitalised due to cardiovascular events. Effective management of CKD can reduce emergency admission to hospital, be cost effective for the NHS and reduce pressure on secondary care. NICE's guideline on chronic kidney disease in adults: assessment and management aims to prevent or delay the progression of CKD, reduce or prevent the development of complications, and reduce the risk of CVD.

Good management of CKD in line with NICE guidance can reduce emergency admission to hospital, be cost effective for the NHS and reduce pressure on secondary care

Primary care is responsible for a number of key interventions in early stage CKD. Where CKD is not recorded correctly in GP records, interventions recommended by NICE, such as patient information and education, review of kidney function, blood pressure control, statin prescription and medication management, may not occur. The National CKD Audit found that 70% of confirmed cases of CKD were recorded correctly in GP records, although 11% of people recorded as CKD stage 3-5 had test evidence that they did not have CKD stage 3-5.

70%

70% of people on the CKD register achieved a target blood pressure

To reduce the risk of CVD, and of CKD progression, NICE recommends that people with CKD should aim for a target blood pressure below 140/90 mmHg. Data from INLIQ show that, in 2016/17, 70% of people on the CKD register achieved a target blood pressure of 140/85 mmHg or below. However, NICE recommends that people with both CKD and diabetes should aim to keep their blood pressure below 130/80 mmHg. Data from the National CKD Audit show that blood pressure control is poor in people with both CKD and diabetes; only 29% had blood pressure below this target.

5 High blood sugar (pre-diabetes) – non diabetic hyperglycaemia (NDH)

People with high blood sugar without diabetes can, through behaviour change programmes, reduce their risk of diabetes and associated cardiovascular events. The CVD prevention pathway highlights that 5 million people have NDH and most do not receive an intervention.

The NICE guideline on type 2 diabetes prevention in people at high risk covers how to identify adults at high risk of diabetes and aims to help provide them with an effective and appropriate behaviour change programme. There are a lack of data telling us about the uptake of our recommendations in this area.

The NDA diabetes prevention pilot found that most people at risk of developing diabetes were not recorded with a diagnosis in GP systems

However, the National Diabetes Audit (NDA) has begun collecting information on people with NDH. A pilot in 22 GP practices found low rates of diagnosis recording in people with elevated glucose in the pre-diabetes range, and low attendance at behaviour change programmes as recommended by NICE. We will review the national data when they become available.

Pre-diabetes case finding and behaviour change programmes

The Healthier You: NHS Diabetes Prevention Programme (NHS DPP) was launched in 2016 and represents a joint commitment from NHS England, PHE and Diabetes UK. Using the approach outlined in NICE's guideline on prevention of type 2 diabetes in people at high risk, the programme aims to identify people with NDH through the NHS Health Checks programme, searches of GP records or routine contact with a healthcare professional. They are then referred onto a behaviour change programme.

People who are referred receive support to set and achieve goals and make positive changes to their lifestyle. They are encouraged to achieve dietary and physical activity recommendations and to reach a healthy weight. Together these changes are proven to reduce the risk of developing Type 2 diabetes. Between June 2016 and March 2017 the programme was available in 27 areas of England, covering over half the population. Nearly 44,000 referrals were made and 49% of those referred attended at least the first session.

By March 2018, 4,500 people had completed the programme, which takes approximately 9 months. Analysis of the results are ongoing. The programme will be rolled out nationally from April 2018 and the new data collection on pre-diabetes as part of the NDA will allow the long term impact to be assessed.

6 Diabetes

NICE has produced a patient decision aid to help people with type 2 diabetes think about their options for controlling their blood glucose to try to reduce the long-term risks of diabetes.

People with diabetes who receive NICE recommended care processes, such as measurement of blood pressure and BMI, can more effectively manage their condition and improve their CVD outcomes. However the CVD prevention pathway highlights that 940,000 people with diabetes are undiagnosed and many of those who are diagnosed do not receive optimum care.

NICE has published a suite of guidance on the diagnosis and management of type 1 and 2 diabetes in both children and adults. The NDA measures the uptake of 8 of the care processes recommended by NICE. Data from the 2016/17 audit show that only 34% of people with type 1 diabetes and just under half of people with type 2 diabetes received all 8 care processes. The audit found that there is variation by age, with younger people less likely to receive their annual diabetes checks.

A third of people with type 1 diabetes and about half of people with type 2 diabetes received all 8 of the NICE recommended care processes

One key NICE recommendation is that people who are newly diagnosed should be offered structured education programmes. These programmes can help improve knowledge, skills and also help to motivate people to take control of their condition through self-management. Control of blood pressure, HbA1c (average plasma glucose concentration) and lipids improves outcomes.

Data from QOF show that around 70% of people with newly diagnosed diabetes are referred to a structured education programme within 9 months. However, data from the NDA suggest that attendance rates at these programmes is low, although the audit highlights that recording is poor and rates may be underestimated. Of those diagnosed in 2015, only 3% of people with type 1 diabetes and 7% of those with type 2 were recorded as attending structured education within a year of diagnosis.

'Going on the course made a big difference. It took the worry away. It reduced my HbA1c. It reduced my cholesterol. I lost three stone in weight. My blood pressure came down. I am still going to the gym twice a week and swimming at the age of 72. Now I understand the condition I don't worry. I can go away on holiday and know my diabetes is under control. It doesn't stop me doing anything I want to do.' Malcolm, Diabetes UK volunteer

NICE recommends that children and young people with diabetes should be offered a continuing programme of education from diagnosis. Data from the National Paediatric Diabetes Audit suggest that uptake of this recommendation is better, with 71% of children and young people with type 1 diabetes and 58% of those with type 2 receiving structured education in 2015/16.

These data show that there are opportunities to improve self-management of diabetes through structured education, particularly in adults. A future NICE impact report will give further insights into what we know about the uptake of our recommendations for the care of people with diabetes.

Increasing uptake of structured education

Most people with diabetes only spend around 3 hours a year with their doctor, nurse or consultant. For the other 8,757 hours they must manage their diabetes themselves. Managing diabetes day-to-day can be difficult. This is why it's important people have the knowledge and skills to manage their diabetes so they can live well and avoid complications.

Structured education, recommended by NICE, can improve key outcomes, reduce the onset of complications and can result in associated savings for the NHS. NICE recommends that these programmes should include an evidence-based curriculum, quality assurance of teaching standards and regular audit. In March 2018, £40 million was allocated as part of the NHS Transformation fund for Diabetes by NHS England for an additional 94,000 structured education places a year.

Diabetes UK's Taking Control campaign aims to increase the provision and uptake of diabetes structured education in line with NICE guidance. It aims to ensure more people are offered and go on courses. In addition every area in the UK should offer a range of ways to learn about diabetes and ensure people with diabetes feel they have the skills and confidence to manage their diabetes well.

The campaign has challenged decision makers to sign up to education pledges and has empowered people with diabetes to talk to healthcare professionals about what is available in their area. It has received over 500,000 views of videos promoting courses, more than 1.2 million views of posts on social media and over 11,000 likes, shares or retweets.

Spotlight on severe mental illness

One of NICE's medicines and prescribing associates has supported Birmingham and Solihull Mental Health Foundation Trust's strategy aiming to improve the physical health monitoring of people with serious mental illness, particularly those on antipsychotic medication.

Systems have been set up to encourage better monitoring of patients' physical health parameters in line with NICE guidance, and to improve recording in electronic patient records. This then enables appropriate actions to be taken within the trust or by other partners such as the patient's GP.

Good progress has been made in capturing cardiometabolic indicators; 70% of inpatients had these recorded on their patient record in October 2017, up from 38% in April 2017.

Severe mental illness is also linked with an increase in CVD risk. The **Five Year Forward View for Mental Health taskforce report** highlights that people with severe and prolonged mental illness are at risk of dying on average 15 to 20 years earlier than other people. Two thirds of these deaths are from avoidable physical illnesses such as CVD.

In our guidance on **psychosis and schizophrenia** and **bipolar disorder,** NICE recommends that people with these conditions have physical health assessments to enable healthcare practitioners to offer any necessary physical health interventions. Blood pressure is one NICE recommended element of a comprehensive physical health assessment. Data from the QOF show that, in 2016/17, 90% of people with severe mental illness had their blood pressure recorded in the last 12 months.

Further NICE recommended checks, such as cholesterol and blood sugar, were retired as QOF measures in 2014. However, in Next Steps on the Five Year Forward View, NHS England has prioritised this area of care, promising at least 280,000 health checks for people with severe mental illness in 2018/19.

Improving physical healthcare for people with severe mental illness

NHS England has produced a **resource to support CCGs** which identifies key elements in the delivery of accessible, comprehensive and evidence-based physical healthcare for people with severe mental illness. The first element is the completion of NICE recommended physical health assessments as part of a routine check at least annually. The resource describes how Bradford District Care NHS Trust designed and implemented a new physical health template in line with NICE guidance which identified more people at high risk of CVD.

The second element identified in the resource is the delivery of or referral to NICE recommended interventions for physical health risks or conditions identified in the assessment. It signposts to NICE guidance on obesity, physical activity, hypertension, diabetes, CVD, smoking, alcohol and drug misuse. The resource anticipates that better management of the physical health of people with severe mental illness could release savings of over £100 million to the NHS by 2020/21.

Commentary

Jamie Waterall, May 2018

Jamie Waterall is National Lead for Cardiovascular Disease Prevention and Associate Deputy Chief Nurse at Public Heath England.

CVD prevention remains a big focus for both national and local health and care teams. As National Lead for CVD Prevention at PHE, I am very aware of the case for urgent action on this disease area. Given the number of individuals, families and communities which continue to be negatively impacted by this largely preventable group of conditions, this resource is both timely and welcomed.

Despite significant improvements in mortality over recent decades, we know that CVD remains one of the largest causes of premature death, ill health and health inequalities globally. Those living in among the 10% most deprived population are almost as twice as likely to die from CVD compared to those among the 10% most affluent. Given this, one could question if enough emphasis is being put on the actions which could be taken in addressing these important health inequalities. I was therefore pleased to see the focus on mental health within this document and would encourage readers to consider what actions they are taking locally to implement these recommendations.

The Global Burden of Disease Study reminds us of the leading causes driving the tide of non-communicable disease, which include CVD conditions. These often share a common set of both behavioural and physiological risk factors, such as obesity, tobacco, high blood pressure and high cholesterol. The various guidelines produced by NICE which address both these behavioural and physiological risk factors are used not only at home but also across the globe. So despite having some of the best guidelines in the world, we know that implementing them remains a challenge. For example, we know that only 35% of people with hypertension are both detected and treated in line with NICE guidelines. This is in comparison to 65% in Canada, who have similar treatment guidelines. Given that high blood pressure is the leading

'It is encouraging to see the impact of evidence based innovative solutions preventing CVD being adopted across the health system. Clearly there remains huge opportunity to drive the wider adoption of effective solutions to reduce the numbers of heart attacks and strokes in England.' Jacob West, Executive Director of Healthcare Innovation, BHF

risk factor for heart attacks and strokes, it is imperative that we all work together to improve our performance on its prevention, early detection and management.

NICE guidelines are clearly critical to our future success of reducing the number of people who are prematurely dying or living with preventable ill health. However, we need to focus on a system-wide approach to implementing them, gaining a better understanding of what works in a rapidly changing environment, which poses both challenges and opportunities.

Given the rapid adoption of smart phones and other mobile digital devices, we need to engage with this type of technology to test and evaluate its role in the delivery of prevention and health care interventions. There are already examples of this, such as PHE's **Active 10** app and the online **Heart Age Test** which has now been completed over 1.7 million times. These technologies could play an important role in allowing us to do things differently and support citizens to take on a more active role in effectively managing or reducing their CVD risk in the future.

We would like to thank Dr Matt Kearney, National Clinical Director for Cardiovascular Disease Prevention, for his input. We would also like to thank British Heart Foundation, Diabetes UK, Heart UK and Public Health England for their contributions to this report.

Published June 2018

Any enquiries regarding this publication or any other enquiries about NICE and its work should be made to:

National Institute for Health and Care Excellence
10 Spring Gardens
London SW1A 2BU
Telephone: +44 (0)300 323 0140
Fax: +44 (0)300 323 0148

National Institute for Health and Care Excellence
Level 1A, City Tower
Piccadilly Plaza
Manchester M1 4BT
Telephone: +44 (0)300 323 0140
Fax: +44 (0)300 323 0149

Email: **impact@nice.org.uk**
Website: **www.nice.org.uk**

www.nice.org.uk