



## NHS High Weald Lewes Havens CCG

### Introduction

Investing in preventing adverse health events can improve the lives of patients and reduce the need for more costly care later on. Improving primary care management of cardiovascular and cardiovascular-related conditions can prevent both adverse health events and costs – this document gives an indication of the scale.

The improvements are made by bringing the number of specific intervention therapies used by clinical commissioning groups (CCG) to levels in line with one of the best performing practices in their CCG. The number of disease events and potential costs this might prevent are presented on the following pages.

### Overview of the approach

The tables below look at the number of people who are treated using intervention therapies for the management of cardiovascular and cardiovascular-related conditions.

A 'numbers needed to treat' (NNT) value for specific health events has been obtained or calculated from published literature for each intervention. These values are applied to the CCG's treatment levels, as published in the Quality and Outcomes Framework (QOF) achievements. The expected number of disease events prevented is then calculated from these.

These numbers are compared to one of the best performing practices in their CCG. For each intervention, a comparison is made to the GP practice at the 75th centile. The additional number of people the CCG would need to treat to equal the practice comparator and the opportunity in disease events which could be prevented has then been calculated.

Savings are shown for one year based on the average cost of these events per year. An average cost per patient for each intervention is also provided.

### Scope of interventions

Interventions were only included if there was:

- robust evidence of the intervention having an impact in approximately five years
- robust evidence of the numbers needed to treat, or risk difference to calculate numbers needed to treat
- robust local data to calculate current and comparative achievement

Further improvement could also be achieved through other interventions that prevent hypertension for example, or through case finding. At this time, due to these information requirements, no lifestyle interventions have been included.

# Blood pressure control in people with hypertension

## NHS High Weald Lewes Havens CCG

Improvements can be made by managing adults with diagnosed hypertension to a blood pressure control target. This assumes patients control their blood pressure consistently in order to reduce adverse disease events over a period of time.

The number of 'events avoided' is calculated by comparison to one of the best performing practices in this CCG. **CCG comparator: GP practice at the 75th centile**

Treatment	Blood pressure control to 150/90 mmHg in all adults
Current estimated number of patients treated with intervention	19,360
Additional patients CCG needs to treat to meet comparator intervention levels	698

Disease event and NNT	Events avoided (opportunity)	Opportunities avoided over (NNT time frame)	One-year <sup>1</sup> savings from events avoided - NHS	One-year <sup>1</sup> savings from events avoided - social care
Stroke: 1 in 67	10	5 years	£109,400	£39,700
Heart attack: 1 in 100	6	5 years	£52,400	-
Heart failure: 1 in 48	14	5 years	£19,300	-
Deaths: 1 in 125	5	5 years	-	-

<sup>1</sup> Assumes all events occur in the final year in the NNT time frame

It costs approximately £69 per year (2014 prices) for the GP clinic time and anti-hypertensive drugs needed to control the blood pressure of an average person with hypertension.

# Blood pressure control in people with cardiovascular disease

## NHS High Weald Lewes Havens CCG

Improvements can be made by managing hypertension in adults diagnosed with diabetes or stroke. This assumes that patients control their blood pressure consistently in order to reduce adverse disease events over a period of time.

The number of 'events avoided' is calculated by comparison to one of the best performing practices in this CCG.

**CCG comparator: *GP practice at the 75th centile***

	Hypertensive adults with diabetes	Hypertensive adults with stroke
Treatment	Blood pressure control to 140/80	Blood pressure control to 150/90
Current estimated number of patients treated with intervention	3,260	2,000
Additional patients CCG needs to treat to meet comparator intervention levels	171	35

Condition	Disease event and NNT	Events avoided (opportunity)	Opportunities avoided over (NNT time frame)	One-year savings from events avoided - NHS	One-year savings from events avoided - social care
Diabetes	Stroke: 1 in 59	2	9 years	£21,889	£7,930
	Heart attack: 1 in 204	0	9 years	£0	-
	Chronic kidney disease: 1 in 51	3	4 years	£755	-
	Heart failure: 1 in 42	4	4 years	£5,514	-
Previous stroke	Recurrent stroke: 1 in 27	1	4 years	£21,889	-

It costs approximately £69 per year (2014 prices) for the GP clinic time and anti-hypertensive drugs needed to control the blood pressure of an average person with hypertension.

# Cholesterol control in people with cardiovascular disease

## NHS High Weald Lewes Havens CCG

Improvements can be made if adults with diagnosed diabetes or coronary heart disease (CHD) manage their cholesterol to target. This assumes that patients control their cholesterol levels consistently in order to reduce adverse disease events over a period of time.

The number of 'events avoided' is calculated by comparison to one of the best performing practices in this CCG.

**CCG comparator: GP practice at the 75th centile**

	Adults with diabetes	Adults with CHD
<b>Treatment</b>	<b>Controlling cholesterol to 5 mmol or less</b>	
<b>Current estimated number of patients treated with intervention</b>	5,260	3,760
<b>Additional patients CCG needs to treat to meet comparator intervention levels</b>	153	199

Condition	Disease event and NNT	Events avoided (opportunity)	Opportunities avoided over (NNT time frame)	One-year savings from events avoided - NHS	One-year savings from events avoided - social care
<b>Diabetes</b>	<b>Stroke: 1 in 233</b>	0	5 years	£0	£0
<b>CHD</b>	<b>Stroke: 1 in 125</b>	1	5 years	£10,944	£3,965
	<b>Heart attack: 1 in 39</b>	5	5 years	£43,636	-

It costs approximately £69 per year (2014 prices) for one year to control cholesterol for patients with diabetes or CHD. This includes the GP clinic time, one lipid test and one year of generic statin prescriptions.

# Anti-coagulation in people with atrial fibrillation

## NHS High Weald Lewes Havens CCG

Improvements can be made by providing adults with diagnosed atrial fibrillation (AF) with appropriate anti-coagulation treatment. The treatment assumes that patients are managed consistently in order to reduce adverse disease events over a period of time.

The number of 'events avoided' is calculated by comparison to one of the best performing practices in this CCG.

**CCG comparator:** *GP practice at the 75th centile*

Treatment	AF patients with CHADS <sub>2</sub> score greater than 1 with oral anti-coagulation therapy
Current estimated number of patients treated with intervention	1,340
Additional patients CCG needs to treat to meet comparator intervention levels	67

Disease event and NNT	Events avoided (opportunity)	Opportunities avoided over (NNT time frame)	One-year savings from events avoided - NHS	One-year savings from events avoided - social care
Stroke: 1 in 25 and 1 in 60	1	1.5 years	£13,400	£7,100
Deaths: 1 in 42	1	1.5 years	-	-

It costs approximately £500 per patient (2014 prices) for one year of treatment with anti-coagulants. This is an assumption of 57% of the treatment population on warfarin (including warfarin monitoring clinics) and a further 43% taking new anti-coagulants (split equally between Dabigatran etexilate, Rivaroxaban and Apixaban) in line with NICE CG180 assumptions.

## Interpretation notes

Events avoided are calculated for each intervention, independent of other intervention effects. The fact that the population groups (and thus their interventions) overlap has not been incorporated into the calculation. This should be taken into consideration when interpreting the tables.

The number of 'events avoided' takes place over a specified number of years: the NNT time frame. The 'potential cost avoided' for these events is given for one year in the tables, however in practice the events can occur at different points over the NNT time frame. The cost saving estimates are therefore a conservative estimate over the time frame and provide a minimum estimate of cost prevented.

## Assumptions

### General assumptions

Numbers needed to treat (NNT) is a statistical value, but can be simply defined as a measure of the impact of a medicine or therapy by estimating the number of patients that need to be treated in order to have an impact (either benefit or harm) on one person. In the current tables this impact is measured as a benefit, or in other words the reduction of disease events related to the treatment therapy in question.

The NNT intervention population from published evidence is not always an exact match to the CCG population having the intervention described in the QOF, thus the events that could be prevented from the intervention in CCGs should be considered indicative.

For some of the interventions, reduction in deaths has been included as an event. No cost has been included for a death, as it is difficult to provide a general figure for this.

Costs of interventions have been estimated based on suggested costs of medication for 2014. Not all patients for all interventions will necessarily have medication, and drug costs may change over time. These are therefore estimations of possible costs at this time.

# Assumptions

## Population assumptions

### Adult populations

QOF CCG registers and clinical measures for CHD, hypertension and stroke include the total population with these conditions. These treatment data have been applied to NNTs for an adult population, assuming that children have little impact on the clinical performance or the size of disease registers.

### Hypertension in diabetes and stroke

The intervention population for blood pressure control in patients with diabetes and stroke is the reported QOF disease denominator (with exceptions) that has been adjusted to estimate the proportion of these patients with hypertension.

## Treatment assumptions

### Hypertension management in adults

NNT values for heart attack and stroke are based on studies looking at pharmacological treatment of adult patients with anti-hypertensive agents. We have assumed that treatment NNTs apply to all patients on the hypertension register.

The evidence used for NNT values in both stroke and heart attack state there is possibly no effect of management below 150 mmHg systolic blood pressure (SBP), so the CCG intervention used is the QOF target of management to 150/90 mmHg.

### Atrial fibrillation

There are two NNTs for atrial fibrillation treatment and stroke outcome. The first applies to warfarin treatment and the second applies to warfarin therapy versus aspirin treatment. Currently, QOF only reports treatment with oral anti-coagulant for those patients with a CHADS<sub>2</sub> score greater than one, but makes no assumption about previous or concurrent treatment with anti-platelet therapy. The assumption here is that 40% of the additional patients treated have had previous treatment with aspirin or other anti-platelet therapy.

The NNT for warfarin is assumed to apply to any patient with anti-coagulation treatment.

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