



This analysis models the health & economic benefits of enabling substantial improvement in secondary prevention of cardiovascular disease (CVD).

Increase in the uptake of 4 high impact but underused treatments is modelled.

3 ambition scenarios are considered: Step Change Improvement, Advanced Improvement and Full Uptake.

The headline table below shows the impact of achieving Step Change – defined as a realistic near-term improvement ambition.

## Humber and North Yorkshire ICB

### Year 3 – Step Change Scenario

<b>Events prevented:</b> <ul style="list-style-type: none"> <li>• 328 Heart attacks</li> <li>• 614 Strokes</li> <li>• 942 Heart failure admissions</li> <li>• 71 End stage kidney disease</li> </ul>	<b>1,956 events*</b> <b>~ 14,786 bed days</b> (excl ESKD) <small>*Total events may not match due to rounding</small>
<b>Health/social care savings</b>	<b>£37 million</b>
<b>Productivity gains</b>	<b>£43 million</b>
<b>Benefit to cost ratio</b>	<b>4.2</b> <small>(Over £4 saved for every £1 spent, with break-even for NHS in first year of Step Change)</small>

*For full report and detailed results for England and every ICB, visit:*

[www.into-action.health/impactreport](http://www.into-action.health/impactreport)

***A realistic step change improvement in secondary prevention will prevent thousands of serious cardiovascular events, deliver huge savings in health and social care, and add £ billions to the national economy in 3 years.***

## The CVD Prevention Challenge

Secondary prevention – using medication to treat high risk conditions like blood pressure and cholesterol – is very effective at preventing cardiovascular disease. But under use of NICE recommended, high impact treatments that prevent CVD is substantial and longstanding – with little change over many years.

## The CVD ACTION Health Economic Impact Model

- **4 high risk conditions:** high blood pressure, high cholesterol, chronic kidney disease and diabetes
- **4 high impact treatments** that are NICE recommended but substantially under-used (Blood pressure lowering, cholesterol lowering, renin angiotensin inhibitors, SGLT2 inhibitors)
- **4 major outcomes:** heart attack, stroke, heart failure, end stage kidney disease
- **3 scenarios:**
  1. **Step Change** as the minimum realistic near-term improvement level. For example, step change for blood pressure = 80% patients treated to target.
  2. **Advanced** (representing substantial improvement on the way to Full Uptake)
  3. **Full Uptake** (not fully achievable in practice as medicines will not be appropriate for every patient)
- **Modelled costs include** use of CVD ACTION, structured support for primary care transformation and increased medication use (>90% of the total costs).

**CVD ACTION targets the HOW** of optimising prevention in the real world, with 3 essential pillars to enable primary care teams to work differently:

1. **Smart data** - routinely detect patients who are not on optimal treatment, and prioritise for optimisation
2. **Structured support for transformation** enabling teams to adapt workforce and pathways to optimise at scale and within capacity
3. **Structured support for delivery** – supporting teams to set and achieve step-change objectives in secondary prevention

**For more information on CVD ACTION contact [Rosa@Into-Action.Health](mailto:Rosa@Into-Action.Health)**

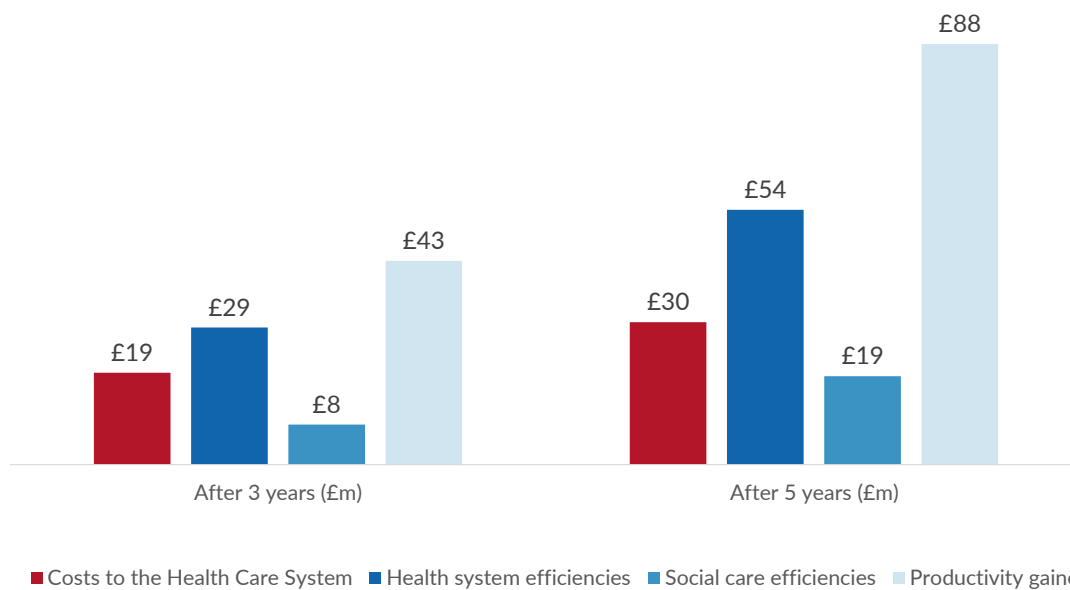


## CVDACTION Modelled Impact (Step Change Scenario)

### Headline Costs and Benefits

Location	Humber and North Yorkshire Integrated Care Board
CVDACTION optimisation cohort	All
Number of patients optimised in year 1	77,185

	After 3 years	After 5 years
<b>Events Prevented</b>		
Myocardial infarctions	328	534
Strokes (ischaemic)	614	992
Heart failure admissions	942	1,495
End stage kidney disease	71	114
<b>Total</b>	<b>1,956</b>	<b>3,134</b>
<b>Costs to the Health Care System</b>	<b>£19m</b>	<b>£30m</b>
<b>Benefits</b>		
Health system efficiencies	£29m	£54m
Social care efficiencies	£8m	£19m
Productivity gained	£43m	£88m
<b>Total</b>	<b>£80m</b>	<b>£160m</b>
<b>Total Benefits to Costs Ratio (Gross)</b>	<b>4.2</b>	<b>5.4</b>



All costs and benefits are discounted



## CVDACTION: Costs and Benefits by Year

**Location:** Humber and North Yorkshire Integrated Care Board

**Scenario:** Step Change

### RESULTS (CUMULATIVE)

	After 1 year	After 2 years	After 3 years	After 4 years	After 5 years	After 10 years	After 15 years
<b>Number avoided with CVDACTION</b>							
Myocardial Infarctions	111	221	328	433	534	1,012	1,423
Strokes	211	415	614	805	992	1,845	2,583
Heart failure admissions	329	644	942	1,224	1,495	2,693	3,654
End stage kidney disease	25	48	71	93	114	207	283
<b>Costs of CVDACTION and treatment (discounted)</b>							
CVDACTION	£362,815	£362,815	£362,815	£362,815	£362,815	£362,815	£362,815
Transformation cost	£453,519	£453,519	£453,519	£453,519	£453,519	£453,519	£453,519
Treatment	£6,655,896	£12,713,578	£18,462,715	£23,922,146	£29,108,764	£51,478,278	£69,045,036
<b>Total</b>	<b>£7,472,230</b>	<b>£13,529,911</b>	<b>£19,279,048</b>	<b>£24,738,480</b>	<b>£29,925,098</b>	<b>£52,294,612</b>	<b>£69,861,370</b>
<b>Value by economic category (discounted)</b>							
Health costs avoided	£7,987,726	£17,721,459	£28,797,758	£40,791,356	£53,524,293	£121,781,335	£187,559,670
Social care costs avoided	£1,671,883	£4,542,708	£8,427,114	£13,145,615	£18,571,533	£52,222,798	£89,648,073
Informal care costs avoided	£8,997,105	£21,044,723	£35,657,582	£52,280,893	£70,685,117	£177,828,959	£291,634,328
Lost productivity avoided	£861,421	£3,345,171	£7,145,192	£11,975,840	£17,613,322	£52,626,774	£90,408,319
<b>Total</b>	<b>£19,518,135</b>	<b>£46,654,059</b>	<b>£80,027,647</b>	<b>£118,193,704</b>	<b>£160,394,265</b>	<b>£404,459,866</b>	<b>£659,250,390</b>
<b>Value by clinical event (discounted)</b>							
Myocardial Infarctions	£1,669,065	£3,767,589	£6,203,036	£8,911,836	£11,811,319	£28,038,325	£44,219,774
Strokes	£15,775,926	£36,397,361	£61,089,211	£88,939,526	£119,612,737	£296,539,763	£483,127,590
Heart failure admissions	£1,017,417	£3,303,439	£6,555,189	£10,519,753	£15,024,575	£41,340,195	£68,049,037
End stage kidney disease	£1,055,727	£3,185,670	£6,180,211	£9,822,589	£13,945,634	£38,541,583	£63,853,989
<b>Total</b>	<b>£19,518,135</b>	<b>£46,654,059</b>	<b>£80,027,647</b>	<b>£118,193,704</b>	<b>£160,394,265</b>	<b>£404,459,866</b>	<b>£659,250,390</b>
<b>Benefit to cost ratio (Gross)</b>							
Health costs avoided	1.1	1.3	1.5	1.6	1.8	2.3	2.7
Social care costs avoided	0.2	0.3	0.4	0.5	0.6	1.0	1.3
Informal care costs avoided	1.2	1.6	1.8	2.1	2.4	3.4	4.2
Lost productivity avoided	0.1	0.2	0.4	0.5	0.6	1.0	1.3
<b>Total</b>	<b>2.6</b>	<b>3.4</b>	<b>4.2</b>	<b>4.8</b>	<b>5.4</b>	<b>7.7</b>	<b>9.4</b>

\*Numbers less than 10 suppressed



## CVDACTION Optimisation Cohorts Analysis After 3 Years

**Location**    **Humber and North Yorkshire Integrated Care Board**

### Step Change Scenario After 3 Years

Optimisation Cohort	Heath System Costs	CVD Events Prevented <sup>1</sup>	Health System Efficiencies	Social Care Efficiencies	Informal Care Avoided	Productivity Gained	Total Benefits
Hypertension							
1. Blood pressure not treated to target	£887,599	732	£11,049,206	£4,232,177	£17,934,237	£2,491,259	£35,706,880
Cholesterol							
2. CVD not on Lipid Lowering Therapy (LLT)	£314,621	116	£2,224,380	£944,972	£4,004,351	£427,200	£7,600,903
3. CVD on suboptimal dose or intensity of statin	£456,430	105	£1,656,944	£496,923	£2,098,554	£354,350	£4,606,771
4. CVD on max statin but not treated to target	£996,577	43	£826,696	£265,082	£1,131,062	£156,961	£2,379,801
Chronic Kidney Disease							
5. RAA indicated but not prescribed	£40,812	45	£923,812	£156,977	£675,195	£266,075	£2,022,058
6. SGLT2i indicated but not prescribed	£5,000,242	214	£1,817,484	£0	£0	£657,632	£2,475,116
7. CVD and Statin not prescribed	£44,186	29	£602,819	£260,387	£1,113,907	£107,908	£2,085,020
8. BP not treated to target	£51,601	80	£1,244,612	£483,673	£2,040,692	£282,178	£4,051,156
Diabetes							
9. RAA indicated but not prescribed	£310,937	231	£4,281,111	£785,691	£3,305,533	£1,238,766	£9,611,101
10. SGLT2i indicated but not prescribed	£11,036,183	234	£2,072,099	£0	£0	£701,875	£2,773,973
11. DM and HTN with BP not treated to target	£114,432	114	£1,857,665	£702,580	£2,940,298	£414,911	£5,915,455
12. DM with CVD not on LLT	£25,430	13	£240,930	£98,653	£413,753	£46,078	£799,414
<b>Total</b>	<b>£19,279,048</b>	<b>1,956</b>	<b>£28,797,758</b>	<b>£8,427,114</b>	<b>£35,657,582</b>	<b>£7,145,192</b>	<b>£80,027,647</b>

All costs and benefits are discounted

1 Events include heart attacks, strokes, heart failure admissions and end stage kidney disease.