

## POWERING THE PREVENTION SHIFT | THE CVDACTION IMPACT MODEL



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.

Northamptonshire ICB Year 3 – Step Change Scenario	
<b>Events prevented:</b> <ul style="list-style-type: none"> <li>• 131 Heart attacks</li> <li>• 250 Strokes</li> <li>• 402 Heart failure admissions</li> <li>• 31 End stage kidney disease</li> </ul>	<b>814 events*</b> <b>~ 6,208 bed days</b> (excl ESKD) <small>*Total events may not match due to rounding</small>
<b>Health/social care savings</b>	<b>£15.3 million</b>
<b>Productivity gains</b>	<b>£17.5 million</b>
<b>Benefit to cost ratio</b>	<b>15.6</b> <small>(Over £15 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:

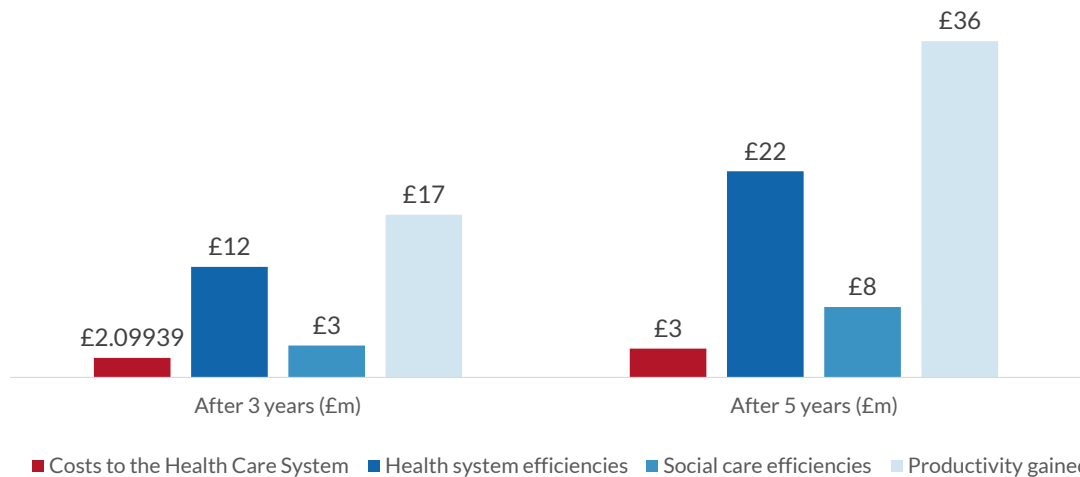
1. **Smart data** - routinely detect patients who are not on optimal treatment, and prioritise for optimisation
2. **Structured support for transformation** enabling teams to adapt workforce and pathways to optimise at scale and within capacity
3. **Partnership with primary care for step change** – supporting 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)

## CVD ACTION Modelled Impact (Step Change Scenario) Headline Costs and Benefits

<b>Location</b>	Northamptonshire Integrated Care Board
<b>CVD ACTION optimisation cohort</b>	All
<b>Number of patients optimised in year 1</b>	31,421

	After 3 years	After 5 years
<b>Events Prevented</b>		
Myocardial infarctions	131	214
Strokes (ischaemic)	250	404
Heart failure admissions	402	640
End stage kidney disease	31	49
<b>Total</b>	<b>814</b>	<b>1,307</b>
<b>Costs to the Health Care System</b>	<b>£2.1m</b>	<b>£3.1m</b>
<b>Benefits</b>		
Health system efficiencies	£11.9m	£22.2m
Social care efficiencies	£3.4m	£7.6m
Productivity gained	£17.5m	£36.2m
<b>Total</b>	<b>£32.8m</b>	<b>£65.9m</b>
<b>Total Benefits to Costs Ratio (Gross)</b>	<b>15.6</b>	<b>21.3</b>



All costs and benefits are discounted

## CVDAction: Costs and Benefits by Year

**Location:** Northamptonshire 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	44	88	131	173	214	407	574
Strokes	86	169	250	328	404	753	1,055
Heart failure admissions	140	275	402	523	640	1,160	1,581
End stage kidney disease	11	21	31	40	49	90	123
<b>Costs of CVDAction and treatment (discounted)</b>							
CVDAction	£170,129	£170,129	£170,129	£170,129	£170,129	£170,129	£170,129
Transformation cost	£212,661	£212,661	£212,661	£212,661	£212,661	£212,661	£212,661
Treatment	£615,129	£1,179,912	£1,716,597	£2,226,790	£2,711,976	£4,808,806	£6,457,305
<b>Total</b>	<b>£997,918</b>	<b>£1,562,702</b>	<b>£2,099,386</b>	<b>£2,609,579</b>	<b>£3,094,766</b>	<b>£5,191,595</b>	<b>£6,840,095</b>
<b>Value by economic category (discounted)</b>							
Health costs avoided	£3,275,201	£7,291,680	£11,881,839	£16,868,470	£22,176,335	£50,802,739	£78,569,194
Social care costs avoided	£679,994	£1,849,226	£3,432,253	£5,355,981	£7,569,035	£21,304,412	£36,599,396
Informal care costs avoided	£3,659,333	£8,564,220	£14,519,719	£21,296,671	£28,803,851	£72,544,927	£119,067,256
Lost productivity avoided	£353,208	£1,387,799	£2,977,195	£5,003,091	£7,372,074	£22,152,859	£38,183,420
<b>Total</b>	<b>£7,967,736</b>	<b>£19,092,925</b>	<b>£32,811,007</b>	<b>£48,524,213</b>	<b>£65,921,294</b>	<b>£166,804,937</b>	<b>£272,419,266</b>
<b>Value by clinical event (discounted)</b>							
Myocardial Infarctions	£665,840	£1,504,445	£2,476,092	£3,557,586	£4,714,384	£11,193,708	£17,655,544
Strokes	£6,416,439	£14,811,584	£24,874,851	£36,228,722	£48,740,650	£120,972,544	£197,250,725
Heart failure admissions	£432,823	£1,408,520	£2,800,727	£4,503,900	£6,444,994	£17,869,685	£29,566,238
End stage kidney disease	£452,634	£1,368,375	£2,659,336	£4,234,004	£6,021,266	£16,769,000	£27,946,759
<b>Total</b>	<b>£7,967,736</b>	<b>£19,092,925</b>	<b>£32,811,007</b>	<b>£48,524,213</b>	<b>£65,921,294</b>	<b>£166,804,937</b>	<b>£272,419,266</b>
<b>Benefit to cost ratio (Gross)</b>							
Health costs avoided	3.3	4.7	5.7	6.5	7.2	9.8	11.5
Social care costs avoided	0.7	1.2	1.6	2.1	2.4	4.1	5.4
Informal care costs avoided	3.7	5.5	6.9	8.2	9.3	14.0	17.4
Lost productivity avoided	0.4	0.9	1.4	1.9	2.4	4.3	5.6
<b>Total</b>	<b>8.0</b>	<b>12.2</b>	<b>15.6</b>	<b>18.6</b>	<b>21.3</b>	<b>32.1</b>	<b>39.8</b>

\*Numbers less than 10 suppressed

## CVD ACTION Optimisation Cohorts Analysis After 3 Years

Location **Northamptonshire Integrated Care Board**

### Step Change Scenario After 3 Years

Optimisation Cohort	Health 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	£420,936	329	£4,970,944	£1,904,020	£8,068,460	£1,120,796	£16,064,221
Cholesterol							
2. CVD not on Lipid Lowering Therapy (LLT)	£65,554	24	£451,532	£191,822	£812,852	£86,718	£1,542,924
3. CVD on suboptimal dose or intensity of statin	£167,658	37	£581,998	£174,543	£737,112	£124,465	£1,618,118
4. CVD on max statin but not treated to target	£351,682	15	£290,375	£93,109	£397,283	£55,132	£835,900
Chronic Kidney Disease							
5. RAA indicated but not prescribed	£16,428	18	£359,855	£61,148	£263,011	£103,645	£787,658
6. SGLT2i indicated but not prescribed	£234,935	83	£707,970	£0	£0	£256,169	£964,139
7. CVD and Statin not prescribed	£17,697	11	£234,818	£101,429	£433,903	£42,034	£812,184
8. BP not treated to target	£21,577	32	£493,109	£191,629	£808,512	£111,798	£1,605,049
Diabetes							
9. RAA indicated but not prescribed	£143,560	103	£1,913,192	£351,118	£1,477,214	£553,594	£4,295,118
10. SGLT2i indicated but not prescribed	£592,853	105	£926,003	£0	£0	£313,662	£1,239,665
11. DM and HTN with BP not treated to target	£54,831	52	£844,373	£319,347	£1,336,468	£188,592	£2,688,779
12. DM with CVD not on LLT	£11,675	6	£107,670	£44,087	£184,902	£20,592	£357,251
<b>Total</b>	<b>£2,099,386</b>	<b>814</b>	<b>£11,881,839</b>	<b>£3,432,253</b>	<b>£14,519,719</b>	<b>£2,977,195</b>	<b>£32,811,007</b>

All costs and benefits are discounted

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