

## 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.

Devon ICB Year 3 – Step Change Scenario	
<b>Events prevented:</b> <ul style="list-style-type: none"> <li>• 230 Heart attacks</li> <li>• 435 Strokes</li> <li>• 662 Heart failure admissions</li> <li>• 50 End stage kidney disease</li> </ul>	<b>1,377 events*</b> <b>~ 10,402 bed days</b> (excl ESKD) <small>*Total events may not match due to rounding</small>
<b>Health/social care savings</b>	<b>£26.3 million</b>
<b>Productivity gains</b>	<b>£30.3 million</b>
<b>Benefit to cost ratio</b>	<b>15.7</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:

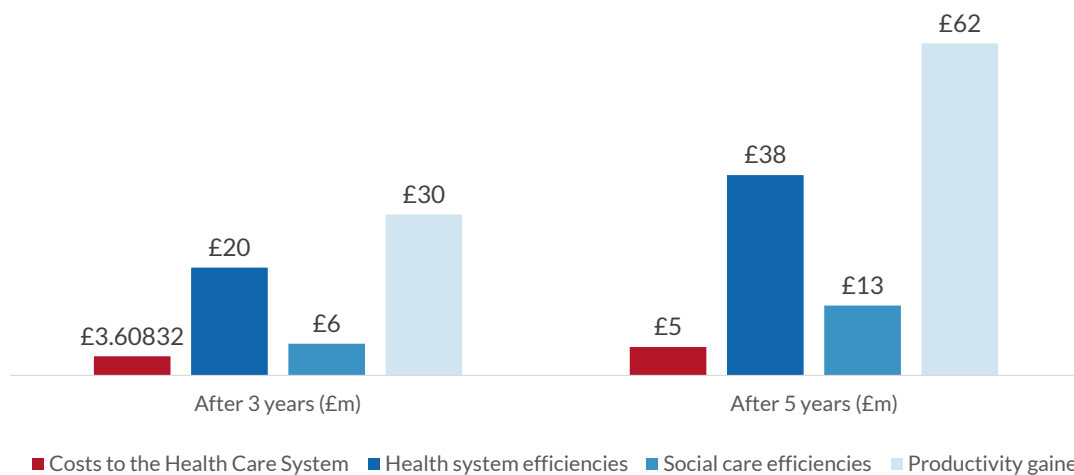
1. **Smart data** - routinely detect patients who are not on optimal treatment, and prioritise for optimisation
2. **Structured support for transformation** enabling teams to adapt workforce and pathways to optimise at scale and within capacity
3. **Partnership with primary care for step change** – supporting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

Location	Devon Integrated Care Board
CVD ACTION optimisation cohort	All
Number of patients optimised in year 1	54,382

	After 3 years	After 5 years
<b>Events Prevented</b>		
Myocardial infarctions	230	375
Strokes (ischaemic)	435	703
Heart failure admissions	662	1,050
End stage kidney disease	50	79
<b>Total</b>	<b>1,377</b>	<b>2,207</b>
<b>Costs to the Health Care System</b>	<b>£3.6m</b>	<b>£5.4m</b>
<b>Benefits</b>		
Health system efficiencies	£20.3m	£37.7m
Social care efficiencies	£6.0m	£13.2m
Productivity gained	£30.3m	£62.5m
<b>Total</b>	<b>£56.6m</b>	<b>£113.4m</b>
<b>Total Benefits to Costs Ratio (Gross)</b>	<b>15.7</b>	<b>21.1</b>



All costs and benefits are discounted

# CVDAction: Costs and Benefits by Year

**Location:** Devon 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	78	155	230	304	375	711	1,001
Strokes	149	294	435	570	703	1,308	1,832
Heart failure admissions	231	453	662	860	1,050	1,894	2,571
End stage kidney disease	17	34	50	65	79	144	197
<b>Costs of CVDAction and treatment (discounted)</b>							
CVDAction	£259,350	£259,350	£259,350	£259,350	£259,350	£259,350	£259,350
Transformation cost	£324,187	£324,187	£324,187	£324,187	£324,187	£324,187	£324,187
Treatment	£1,084,526	£2,079,559	£3,024,786	£3,923,074	£4,777,073	£8,464,843	£11,360,580
<b>Total</b>	<b>£1,668,062</b>	<b>£2,663,096</b>	<b>£3,608,322</b>	<b>£4,506,610</b>	<b>£5,360,609</b>	<b>£9,048,380</b>	<b>£11,944,117</b>
<b>Value by economic category (discounted)</b>							
Health costs avoided	£5,632,752	£12,490,918	£20,292,343	£28,737,721	£37,704,334	£85,794,364	£132,202,495
Social care costs avoided	£1,184,730	£3,219,047	£5,972,025	£9,316,514	£13,163,020	£37,031,216	£63,601,983
Informal care costs avoided	£6,375,530	£14,913,340	£25,270,834	£37,053,813	£50,101,378	£126,097,220	£206,895,640
Lost productivity avoided	£607,453	£2,353,980	£5,025,280	£8,421,333	£12,385,539	£37,029,402	£63,669,341
<b>Total</b>	<b>£13,800,466</b>	<b>£32,977,286</b>	<b>£56,560,483</b>	<b>£83,529,382</b>	<b>£113,354,271</b>	<b>£285,952,202</b>	<b>£466,369,459</b>
<b>Value by clinical event (discounted)</b>							
Myocardial Infarctions	£1,172,208	£2,646,631	£4,358,230	£6,262,493	£8,301,427	£19,727,059	£31,142,635
Strokes	£11,179,140	£25,793,099	£43,294,721	£63,035,726	£84,781,451	£210,273,860	£342,745,706
Heart failure admissions	£714,598	£2,320,823	£4,606,596	£7,394,716	£10,564,463	£29,110,657	£47,985,275
End stage kidney disease	£734,520	£2,216,732	£4,300,936	£6,836,446	£9,706,930	£26,840,626	£44,495,842
<b>Total</b>	<b>£13,800,466</b>	<b>£32,977,286</b>	<b>£56,560,483</b>	<b>£83,529,382</b>	<b>£113,354,271</b>	<b>£285,952,202</b>	<b>£466,369,459</b>
<b>Benefit to cost ratio (Gross)</b>							
Health costs avoided	3.4	4.7	5.6	6.4	7.0	9.5	11.1
Social care costs avoided	0.7	1.2	1.7	2.1	2.5	4.1	5.3
Informal care costs avoided	3.8	5.6	7.0	8.2	9.3	13.9	17.3
Lost productivity avoided	0.4	0.9	1.4	1.9	2.3	4.1	5.3
<b>Total</b>	<b>8.3</b>	<b>12.4</b>	<b>15.7</b>	<b>18.5</b>	<b>21.1</b>	<b>31.6</b>	<b>39.0</b>

\*Numbers less than 10 suppressed

## CVD ACTION Optimisation Cohorts Analysis After 3 Years

Location **Devon 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	£643,015	527	£7,963,240	£3,050,159	£12,925,329	£1,795,467	£25,734,195
Cholesterol							
2. CVD not on Lipid Lowering Therapy (LLT)	£225,209	83	£1,588,212	£674,712	£2,859,116	£305,022	£5,427,063
3. CVD on suboptimal dose or intensity of statin	£318,265	73	£1,150,328	£344,987	£1,456,914	£246,006	£3,198,236
4. CVD on max statin but not treated to target	£692,180	30	£573,931	£184,032	£785,236	£108,970	£1,652,169
Chronic Kidney Disease							
5. RAA indicated but not prescribed	£28,698	32	£647,529	£110,030	£473,265	£186,500	£1,417,324
6. SGLT2i indicated but not prescribed	£418,781	150	£1,273,932	£0	£0	£460,955	£1,734,887
7. CVD and Statin not prescribed	£31,055	20	£422,535	£182,513	£780,772	£75,636	£1,461,456
8. BP not treated to target	£36,144	56	£867,189	£337,001	£1,421,861	£196,609	£2,822,660
Diabetes							
9. RAA indicated but not prescribed	£214,538	159	£2,944,503	£540,390	£2,273,511	£852,010	£6,610,413
10. SGLT2i indicated but not prescribed	£904,259	161	£1,425,167	£0	£0	£482,742	£1,907,909
11. DM and HTN with BP not treated to target	£78,642	78	£1,270,068	£480,347	£2,010,255	£283,671	£4,044,341
12. DM with CVD not on LLT	£17,536	9	£165,709	£67,853	£284,575	£31,692	£549,828
<b>Total</b>	<b>£3,608,322</b>	<b>1,377</b>	<b>£20,292,343</b>	<b>£5,972,025</b>	<b>£25,270,834</b>	<b>£5,025,280</b>	<b>£56,560,483</b>

All costs and benefits are discounted

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