

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.

Thames Valley ICB Year 3 – Step Change Scenario	
Events prevented: <ul style="list-style-type: none"> • 347 Heart attacks • 658 Strokes • 1,027 Heart failure admissions • 78 End stage kidney disease 	2,110 events* ~ 16,011 bed days (excl ESKD) <small>*Total events may not match due to rounding</small>
Health/social care savings	£40.0 million
Productivity gains	£45.9 million
Benefit to cost ratio	15.1 <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

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:

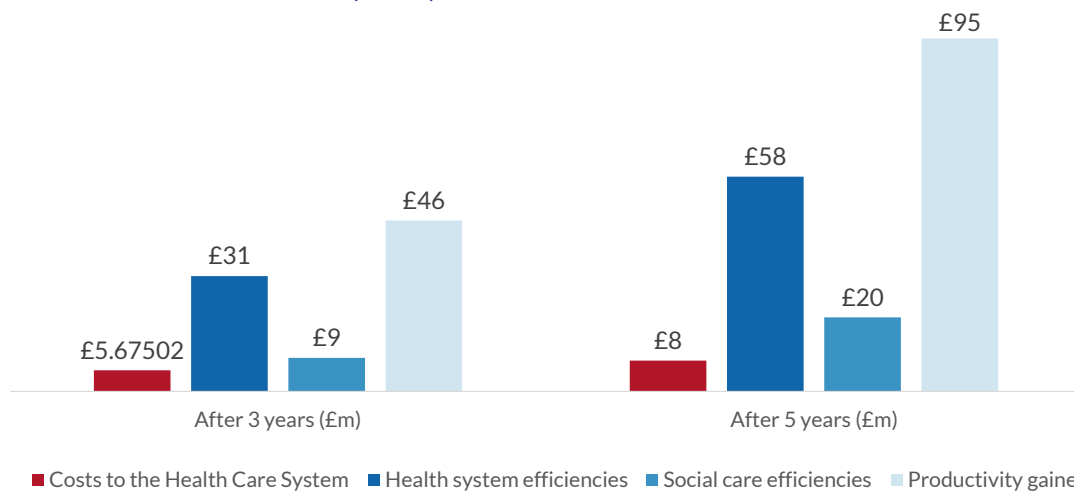
1. **Smart data** - routinely detect patients who are not on optimal treatment, and prioritise for optimisation
2. **Structured support for transformation** enabling teams to adapt workforce and pathways to optimise at scale and within capacity
3. **Partnership with primary care for step change** – supporting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

For more information on CVD ACTION contact Rosa@Into-Action.Health

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

Location	Thames Valley Integrated Care Board
CVD ACTION optimisation cohort	All
Number of patients optimised in year 1	82,233

	After 3 years	After 5 years
Events Prevented		
Myocardial infarctions	347	565
Strokes (ischaemic)	658	1,064
Heart failure admissions	1,027	1,635
End stage kidney disease	78	125
Total	2,110	3,388
Costs to the Health Care System	£5.7m	£8.3m
Benefits		
Health system efficiencies	£31.0m	£57.7m
Social care efficiencies	£9.0m	£19.9m
Productivity gained	£45.9m	£94.9m
Total	£86.0m	£172.6m
Total Benefits to Costs Ratio (Gross)	15.1	20.8



All costs and benefits are discounted

CVDAction: Costs and Benefits by Year

Location: Thames Valley 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
Number avoided with CVDAction							
Myocardial Infarctions	117	234	347	458	565	1,076	1,515
Strokes	226	445	658	863	1,064	1,983	2,780
Heart failure admissions	358	701	1,027	1,337	1,635	2,964	4,041
End stage kidney disease	27	53	78	102	125	228	313
Costs of CVDAction and treatment (discounted)							
CVDAction	£515,709	£515,709	£515,709	£515,709	£515,709	£515,709	£515,709
Transformation cost	£644,637	£644,637	£644,637	£644,637	£644,637	£644,637	£644,637
Treatment	£1,617,350	£3,102,901	£4,514,678	£5,856,888	£7,133,418	£12,651,358	£16,990,620
Total	£2,777,697	£4,263,247	£5,675,024	£7,017,234	£8,293,765	£13,811,704	£18,150,967
Value by economic category (discounted)							
Health costs avoided	£8,563,925	£19,033,923	£30,982,286	£43,950,722	£57,749,277	£132,124,768	£204,271,694
Social care costs avoided	£1,790,261	£4,867,720	£9,035,352	£14,100,638	£19,928,847	£56,121,946	£96,454,573
Informal care costs avoided	£9,634,145	£22,545,896	£38,225,452	£56,070,148	£75,840,991	£191,095,897	£313,768,916
Lost productivity avoided	£923,560	£3,605,109	£7,719,943	£12,963,323	£19,095,174	£57,376,894	£98,935,503
Total	£20,911,892	£50,052,647	£85,963,034	£127,084,832	£172,614,289	£436,719,506	£713,430,686
Value by clinical event (discounted)							
Myocardial Infarctions	£1,761,775	£3,979,530	£6,551,619	£9,414,894	£12,479,434	£29,649,386	£46,788,848
Strokes	£16,892,942	£38,992,905	£65,487,448	£95,383,965	£128,335,329	£318,660,686	£519,794,343
Heart failure admissions	£1,105,353	£3,597,876	£7,155,883	£11,509,637	£16,473,360	£45,715,956	£75,686,485
End stage kidney disease	£1,151,822	£3,482,336	£6,768,083	£10,776,335	£15,326,167	£42,693,478	£71,161,010
Total	£20,911,892	£50,052,647	£85,963,034	£127,084,832	£172,614,289	£436,719,506	£713,430,686
Benefit to cost ratio (Gross)							
Health costs avoided	3.1	4.5	5.5	6.3	7.0	9.6	11.3
Social care costs avoided	0.6	1.1	1.6	2.0	2.4	4.1	5.3
Informal care costs avoided	3.5	5.3	6.7	8.0	9.1	13.8	17.3
Lost productivity avoided	0.3	0.8	1.4	1.8	2.3	4.2	5.5
Total	7.5	11.7	15.1	18.1	20.8	31.6	39.3

*Numbers less than 10 suppressed

CVD ACTION Optimisation Cohorts Analysis After 3 Years

Location **Thames Valley Integrated Care Board**

Step Change Scenario After 3 Years

Optimisation Cohort	Health System Costs	CVD Events Prevented ¹	Health System Efficiencies	Social Care Efficiencies	Informal Care Avoided	Productivity Gained	Total Benefits
Hypertension							
1. Blood pressure not treated to target	£1,133,984	835	£12,614,079	£4,831,570	£20,474,220	£2,844,090	£40,763,960
Cholesterol							
2. CVD not on Lipid Lowering Therapy (LLT)	£276,205	97	£1,845,435	£783,987	£3,322,172	£354,423	£6,306,017
3. CVD on suboptimal dose or intensity of statin	£473,863	99	£1,562,826	£468,697	£1,979,351	£334,222	£4,345,096
4. CVD on max statin but not treated to target	£949,639	40	£779,738	£250,025	£1,066,815	£148,045	£2,244,623
Chronic Kidney Disease							
5. RAA indicated but not prescribed	£43,070	45	£908,178	£154,321	£663,769	£261,572	£1,987,839
6. SGLT2i indicated but not prescribed	£600,295	210	£1,786,727	£0	£0	£646,503	£2,433,230
7. CVD and Statin not prescribed	£46,130	28	£592,617	£255,980	£1,095,056	£106,082	£2,049,735
8. BP not treated to target	£56,894	79	£1,223,162	£475,337	£2,005,522	£277,315	£3,981,336
Diabetes							
9. RAA indicated but not prescribed	£381,701	264	£4,898,266	£898,954	£3,782,050	£1,417,343	£10,996,613
10. SGLT2i indicated but not prescribed	£1,535,908	268	£2,370,807	£0	£0	£803,055	£3,173,862
11. DM and HTN with BP not treated to target	£146,490	130	£2,124,788	£803,607	£3,363,098	£474,573	£6,766,067
12. DM with CVD not on LLT	£30,846	14	£275,662	£112,875	£473,398	£52,720	£914,655
Total	£5,675,024	2,110	£30,982,286	£9,035,352	£38,225,452	£7,719,943	£85,963,034

All costs and benefits are discounted

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