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.

West and North London ICB Year 3 – Step Change Scenario	
Events prevented: • 488 Heart attacks • 806 Strokes • 1,481 Heart failure admissions • 130 End stage kidney disease	**2,906 events*** **~ 22,443 bed days** (excl ESKD) *Total events may not match due to rounding
Health/social care savings	**£53.3 million**
Productivity gains	**£57.8 million**
Benefit to cost ratio	**12.2** (Over £12 saved for every £1 spent, with break-even for NHS in first year of Step Change)

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 CVDACTION 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 CVDACTION, structured support for primary care transformation and increased medication use (>90% of the total costs).

CVDACTION 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

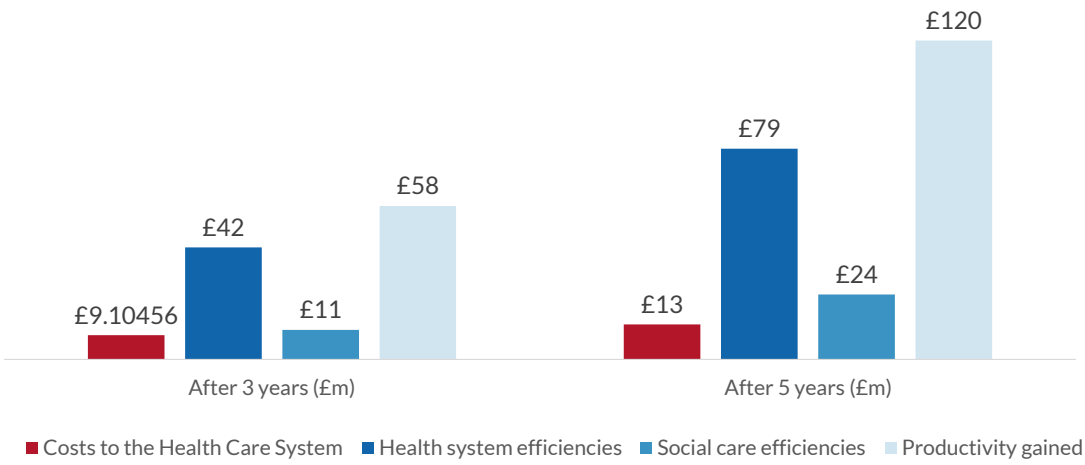
3. **Partnership with primary care for step change** – supporting teams to set and achieve step-change objectives in secondary prevention

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

CVDACTION Modelled Impact (Step Change Scenario)
Headline Costs and Benefits

Location	West and North London Integrated Care Board
CVDACTION optimisation cohort	All
Number of patients optimised in year 1	110,331

	After 3 years	After 5 years
Events Prevented		
Myocardial infarctions	488	796
Strokes (ischaemic)	806	1,302
Heart failure admissions	1,481	2,359
End stage kidney disease	130	208
Total	**2,906**	**4,665**
Costs to the Health Care System	**£9.1m**	**£13.2m**
Benefits		
Health system efficiencies	£42.2m	£79.3m
Social care efficiencies	£11.1m	£24.4m
Productivity gained	£57.8m	£120.1m
Total	**£111.0m**	**£223.8m**
Total Benefits to Costs Ratio (Gross)	**12.2**	**17.0**



All costs and benefits are discounted

CVDACTION: Costs and Benefits by Year

Location: West and North London 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	165	328	488	645	796	1,509	2,116
Strokes	277	545	806	1,056	1,302	2,426	3,394
Heart failure admissions	515	1,011	1,481	1,928	2,359	4,269	5,800
End stage kidney disease	45	88	130	170	208	380	519
Costs of CVDACTION and treatment (discounted)							
CVDACTION	£950,529	£950,529	£950,529	£950,529	£950,529	£950,529	£950,529
Transformation cost	£1,188,161	£1,188,161	£1,188,161	£1,188,161	£1,188,161	£1,188,161	£1,188,161
Treatment	£2,493,816	£4,786,228	£6,965,865	£9,039,093	£11,011,751	£19,548,679	£26,273,332
Total	**£4,632,506**	**£6,924,918**	**£9,104,556**	**£11,177,783**	**£13,150,441**	**£21,687,369**	**£28,412,022**
Value by economic category (discounted)							
Health costs avoided	£11,465,840	£25,740,505	£42,187,318	£60,156,843	£79,312,886	£182,432,108	£281,048,596
Social care costs avoided	£2,195,776	£5,975,054	£11,090,223	£17,301,500	£24,440,293	£68,528,046	£117,095,794
Informal care costs avoided	£11,816,388	£27,654,104	£46,880,091	£68,759,138	£92,974,544	£233,438,070	£381,265,049
Lost productivity avoided	£1,236,512	£5,025,168	£10,886,369	£18,365,353	£27,100,120	£81,160,576	£138,611,585
Total	**£26,714,516**	**£64,394,831**	**£111,044,001**	**£164,582,834**	**£223,827,843**	**£565,558,800**	**£918,021,024**
Value by clinical event (discounted)							
Myocardial Infarctions	£2,477,632	£5,579,043	£9,160,686	£13,135,974	£17,370,952	£40,630,826	£63,135,668
Strokes	£20,719,384	£47,823,949	£80,307,178	£116,962,083	£157,320,739	£389,291,307	£631,695,091
Heart failure admissions	£1,593,233	£5,177,690	£10,279,241	£16,501,118	£23,562,632	£64,527,835	£105,220,872
End stage kidney disease	£1,924,266	£5,814,148	£11,296,896	£17,983,660	£25,573,520	£71,108,832	£117,969,392
Total	**£26,714,516**	**£64,394,831**	**£111,044,001**	**£164,582,834**	**£223,827,843**	**£565,558,800**	**£918,021,024**
Benefit to cost ratio (Gross)							
Health costs avoided	2.5	3.7	4.6	5.4	6.0	8.4	9.9
Social care costs avoided	0.5	0.9	1.2	1.5	1.9	3.2	4.1
Informal care costs avoided	2.6	4.0	5.1	6.2	7.1	10.8	13.4
Lost productivity avoided	0.3	0.7	1.2	1.6	2.1	3.7	4.9
Total	**5.8**	**9.3**	**12.2**	**14.7**	**17.0**	**26.1**	**32.3**

*Numbers less than 10 suppressed

CVDACTION Optimisation Cohorts Analysis After 3 Years

Location West and North London Integrated Care Board

Step Change Scenario After 3 Years

Optimisation Cohort	Heath System Costs	CVD Events Prevented[1]	Health System Efficiencies	*Social Care Efficencies*	*Informal Care Avoided*	*Productivity Gained*	*Total Benefits*
Hypertension							
1 .Blood pressure not treated to target	£1,314,370	836	£12,617,070	*£4,832,716*	*£20,479,075*	*£2,844,764*	*£40,773,625*
Cholesterol							
2. CVD not on Lipid Lowering Therapy (LLT)	£333,538	108	£2,059,567	*£874,955*	*£3,707,654*	*£395,548*	*£7,037,724*
3. CVD on suboptimal dose or intensity of statin	£737,509	135	£2,140,129	*£641,832*	*£2,710,518*	*£457,683*	*£5,950,162*
4. CVD on max statin but not treated to target	£1,320,192	55	£1,067,771	*£342,383*	*£1,460,894*	*£202,732*	*£3,073,780*
Chronic Kidney Disease							
5. RAA indicated but not prescribed	£62,980	59	£1,204,923	*£204,745*	*£880,654*	*£347,040*	*£2,637,362*
6. SGLT2i indicated but not prescribed	£823,229	279	£2,370,536	*£0*	*£0*	*£857,747*	*£3,228,282*
7. CVD and Statin not prescribed	£66,532	38	£786,254	*£339,621*	*£1,452,863*	*£140,744*	*£2,719,482*
8. BP not treated to target	£71,101	85	£1,315,314	*£511,149*	*£2,156,616*	*£298,208*	*£4,281,287*
Diabetes							
9. RAA indicated but not prescribed	£844,993	531	£9,845,145	*£1,806,829*	*£7,601,636*	*£2,848,752*	*£22,102,363*
10. SGLT2i indicated but not prescribed	£3,186,292	539	£4,765,144	*£0*	*£0*	*£1,614,080*	*£6,379,224*
11. DM and HTN with BP not treated to target	£276,569	212	£3,461,406	*£1,309,123*	*£5,478,686*	*£773,108*	*£11,022,323*
12. DM with CVD not on LLT	£67,250	29	£554,060	*£226,870*	*£951,494*	*£105,964*	*£1,838,388*
Total	**£9,104,556**	**2,906**	**£42,187,318**	*£11,090,223*	*£46,880,091*	*£10,886,369*	*£111,044,001*

All costs and benefits are discounted

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