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.

Surrey and Sussex ICB Year 3 – Step Change Scenario	
Events prevented: • 458 Heart attacks • 861 Strokes • 1,353 Heart failure admissions • 104 End stage kidney disease	**2,775 events*** **~ 21,075 bed days** (excl ESKD) *Total events may not match due to rounding
Health/social care savings	**£52.5 million**
Productivity gains	**£60.1 million**
Benefit to cost ratio	**15.1** (Over £15 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

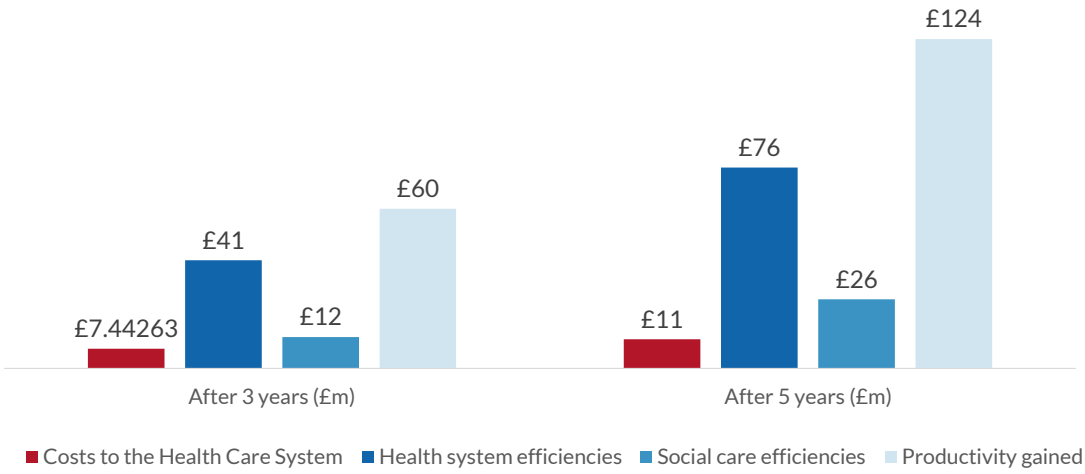
3. **Partnership with primary care for step change** – supporting teams to set and achieve step-change objectives in secondary prevention

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

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

Location	Surrey and Sussex Integrated Care Board
CVDACTION optimisation cohort	All
Number of patients optimised in year 1	107,815

	After 3 years	After 5 years
Events Prevented		
Myocardial infarctions	458	745
Strokes (ischaemic)	861	1,389
Heart failure admissions	1,353	2,143
End stage kidney disease	104	165
Total	**2,775**	**4,442**
Costs to the Health Care System	**£7.4m**	**£11.0m**
Benefits		
Health system efficiencies	£40.7m	£75.7m
Social care efficiencies	£11.8m	£26.0m
Productivity gained	£60.1m	£124.0m
Total	**£112.6m**	**£225.6m**
Total Benefits to Costs Ratio (Gross)	**15.1**	**20.6**



All costs and benefits are discounted

CVDACTION: Costs and Benefits by Year

Location: Surrey and Sussex 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	155	309	458	605	745	1,413	1,985
Strokes	295	582	861	1,127	1,389	2,582	3,612
Heart failure admissions	473	926	1,353	1,756	2,143	3,844	5,197
End stage kidney disease	36	70	104	135	165	299	407
Costs of CVDACTION and treatment (discounted)							
CVDACTION	£601,738	£601,738	£601,738	£601,738	£601,738	£601,738	£601,738
Transformation cost	£752,173	£752,173	£752,173	£752,173	£752,173	£752,173	£752,173
Treatment	£2,184,267	£4,186,773	£6,088,718	£7,895,933	£9,613,794	£17,029,378	£22,850,106
Total	**£3,538,177**	**£5,540,683**	**£7,442,629**	**£9,249,843**	**£10,967,705**	**£18,383,289**	**£24,204,016**
Value by economic category (discounted)							
Health costs avoided	£11,273,557	£25,035,050	£40,701,830	£57,660,656	£75,650,767	£171,813,875	£264,060,895
Social care costs avoided	£2,343,758	£6,366,226	£11,807,028	£18,413,212	£26,006,787	£73,048,405	£125,280,888
Informal care costs avoided	£12,612,740	£29,492,599	£49,961,207	£73,235,007	£98,991,517	£248,770,967	£407,603,304
Lost productivity avoided	£1,215,775	£4,744,939	£10,143,191	£16,997,790	£24,986,112	£74,391,171	£127,406,581
Total	**£27,445,830**	**£65,638,815**	**£112,613,255**	**£166,306,665**	**£225,635,183**	**£568,024,418**	**£924,351,668**
Value by clinical event (discounted)							
Myocardial Infarctions	£2,331,849	£5,262,514	£8,661,624	£12,441,255	£16,484,866	£39,080,924	£61,561,552
Strokes	£22,115,744	£51,008,198	£85,594,856	£124,587,288	£167,514,062	£414,845,782	£675,256,925
Heart failure admissions	£1,463,798	£4,743,842	£9,396,558	£15,054,131	£21,464,936	£58,647,743	£96,055,424
End stage kidney disease	£1,534,440	£4,624,260	£8,960,218	£14,223,992	£20,171,319	£55,449,968	£91,477,767
Total	**£27,445,830**	**£65,638,815**	**£112,613,255**	**£166,306,665**	**£225,635,183**	**£568,024,418**	**£924,351,668**
Benefit to cost ratio (Gross)							
Health costs avoided	3.2	4.5	5.5	6.2	6.9	9.3	10.9
Social care costs avoided	0.7	1.1	1.6	2.0	2.4	4.0	5.2
Informal care costs avoided	3.6	5.3	6.7	7.9	9.0	13.5	16.8
Lost productivity avoided	0.3	0.9	1.4	1.8	2.3	4.0	5.3
Total	**7.8**	**11.8**	**15.1**	**18.0**	**20.6**	**30.9**	**38.2**

*Numbers less than 10 suppressed

CVDACTION Optimisation Cohorts Analysis After 3 Years

Location Surrey and Sussex 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	£1,320,922	1,021	£15,414,226	*£5,904,111*	*£25,019,208*	*£3,475,437*	*£49,812,982*
Cholesterol							
2. CVD not on Lipid Lowering Therapy (LLT)	£447,346	160	£3,062,867	*£1,301,182*	*£5,513,806*	*£588,235*	*£10,466,090*
3. CVD on suboptimal dose or intensity of statin	£641,409	139	£2,204,005	*£660,989*	*£2,791,418*	*£471,343*	*£6,127,756*
4. CVD on max statin but not treated to target	£1,333,255	57	£1,099,641	*£352,602*	*£1,504,497*	*£208,783*	*£3,165,523*
Chronic Kidney Disease							
5. RAA indicated but not prescribed	£65,322	70	£1,420,106	*£241,309*	*£1,037,926*	*£409,016*	*£3,108,358*
6. SGLT2i indicated but not prescribed	£929,377	329	£2,793,880	*£0*	*£0*	*£1,010,928*	*£3,804,809*
7. CVD and Statin not prescribed	£70,284	44	£926,668	*£400,273*	*£1,712,324*	*£165,879*	*£3,205,144*
8. BP not treated to target	£82,339	120	£1,858,961	*£722,417*	*£3,047,991*	*£421,463*	*£6,050,833*
Diabetes							
9. RAA indicated but not prescribed	£459,378	328	£6,076,507	*£1,115,191*	*£4,691,795*	*£1,758,274*	*£13,641,766*
10. SGLT2i indicated but not prescribed	£1,887,325	332	£2,941,087	*£0*	*£0*	*£996,224*	*£3,937,311*
11. DM and HTN with BP not treated to target	£168,361	157	£2,561,910	*£968,929*	*£4,054,972*	*£572,205*	*£8,158,016*
12. DM with CVD not on LLT	£37,312	18	£341,971	*£140,026*	*£587,270*	*£65,402*	*£1,134,669*
Total	**£7,442,629**	**2,775**	**£40,701,830**	*£11,807,028*	*£49,961,207*	*£10,143,191*	*£112,613,255*

All costs and benefits are discounted

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