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**	
Events prevented: • 142 Heart attacks • 283 Strokes • 432 Heart failure admissions • 32 End stage kidney disease	**888 events*** **~ 6,736 bed days** (excl ESKD) *Total events may not match due to rounding
Health/social care savings	**£17 million**
Productivity gains	**£20 million**
Benefit to cost ratio	**4.4** (Over £4 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

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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. **Structured support for delivery** – supporting teams to set and achieve step-change objectives in secondary prevention

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

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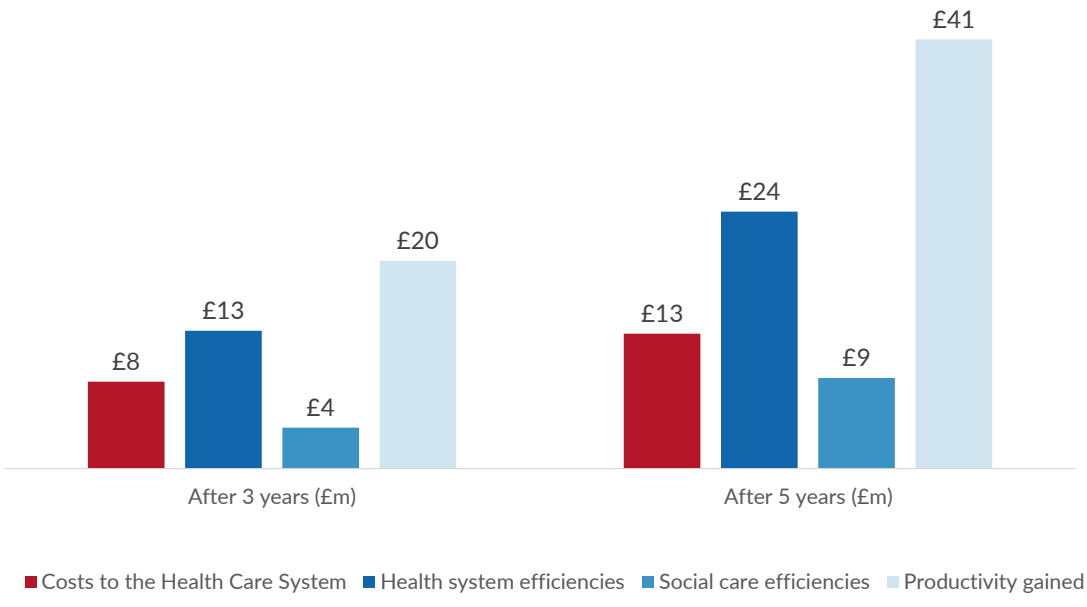
CVDACTION Modelled Impact (Step Change Scenario)

Headline Costs and Benefits

Location	Northamptonshire Integrated Care Board
CVDACTION optimisation cohort	All
Number of patients optimised in year 1	34,354

	After 3 years	After 5 years
Events Prevented		
Myocardial infarctions	142	232
Strokes (ischaemic)	283	457
Heart failure admissions	432	688
End stage kidney disease	32	51
Total	**888**	**1,428**
Costs to the Health Care System	**£8m**	**£13m**
Benefits		
Health system efficiencies	£13m	£24m
Social care efficiencies	£4m	£9m
Productivity gained	£20m	£41m
Total	**£37m**	**£73m**
Total Benefits to Costs Ratio (Gross)	**4.4**	**5.8**



All costs and benefits are discounted

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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
Number avoided with CVDACTION							
Myocardial Infarctions	48	96	142	188	232	443	626
Strokes	97	191	283	370	457	852	1,196
Heart failure admissions	150	294	432	562	688	1,254	1,716
End stage kidney disease	11	21	32	41	51	93	128
Costs of CVDACTION and treatment (discounted)							
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	£2,822,812	£5,396,669	£7,840,828	£10,163,091	£12,370,462	£21,903,306	£29,402,928
Total	**£3,205,602**	**£5,779,459**	**£8,223,617**	**£10,545,881**	**£12,753,252**	**£22,286,096**	**£29,785,718**
Value by economic category (discounted)							
Health costs avoided	£3,607,158	£8,010,015	£13,034,124	£18,488,452	£24,298,163	£55,744,171	£86,484,747
Social care costs avoided	£767,906	£2,088,581	£3,878,089	£6,053,989	£8,558,738	£24,136,202	£41,545,244
Informal care costs avoided	£4,132,421	£9,673,055	£16,406,453	£24,071,387	£32,567,764	£82,168,774	£135,114,203
Lost productivity avoided	£389,007	£1,510,998	£3,233,144	£5,430,739	£8,005,282	£24,169,472	£41,876,739
Total	**£8,896,492**	**£21,282,649**	**£36,551,810**	**£54,044,567**	**£73,429,947**	**£186,218,619**	**£305,020,933**
Value by clinical event (discounted)							
Myocardial Infarctions	£722,129	£1,633,342	£2,690,372	£3,868,576	£5,130,710	£12,240,642	£19,392,350
Strokes	£7,245,972	£16,729,340	£28,107,290	£40,948,769	£55,109,286	£137,016,415	£223,824,054
Heart failure admissions	£463,610	£1,512,377	£3,014,244	£4,858,208	£6,967,623	£19,510,965	£32,539,859
End stage kidney disease	£464,781	£1,407,589	£2,739,905	£4,369,014	£6,222,329	£17,450,597	£29,264,669
Total	**£8,896,492**	**£21,282,649**	**£36,551,810**	**£54,044,567**	**£73,429,947**	**£186,218,619**	**£305,020,933**
Benefit to cost ratio (Gross)							
Health costs avoided	1.1	1.4	1.6	1.8	1.9	2.5	2.9
Social care costs avoided	0.2	0.4	0.5	0.6	0.7	1.1	1.4
Informal care costs avoided	1.3	1.7	2.0	2.3	2.6	3.7	4.5
Lost productivity avoided	0.1	0.3	0.4	0.5	0.6	1.1	1.4
Total	**2.8**	**3.7**	**4.4**	**5.1**	**5.8**	**8.4**	**10.2**

*Numbers less than 10 suppressed

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CVDACTION Optimisation Cohorts Analysis After 3 Years

Location Northamptonshire 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	£478,535	387	£5,845,465	*£2,238,988*	*£9,487,917*	*£1,317,974*	*£18,890,343*
Cholesterol							
2. CVD not on Lipid Lowering Therapy (LLT)	£80,313	29	£562,572	*£238,994*	*£1,012,747*	*£108,044*	*£1,922,357*
3. CVD on suboptimal dose or intensity of statin	£162,907	37	£581,998	*£174,543*	*£737,112*	*£124,465*	*£1,618,118*
4. CVD on max statin but not treated to target	£350,622	15	£290,375	*£93,109*	*£397,283*	*£55,132*	*£835,900*
Chronic Kidney Disease							
5. RAA indicated but not prescribed	£16,085	18	£359,855	*£61,148*	*£263,011*	*£103,645*	*£787,658*
6. SGLT2i indicated but not prescribed	£1,948,618	83	£707,970	*£0*	*£0*	*£256,169*	*£964,139*
7. CVD and Statin not prescribed	£17,383	11	£234,818	*£101,429*	*£433,903*	*£42,034*	*£812,184*
8. BP not treated to target	£23,442	36	£554,578	*£215,516*	*£909,298*	*£125,734*	*£1,805,126*
Diabetes							
9. RAA indicated but not prescribed	£140,578	103	£1,913,192	*£351,118*	*£1,477,214*	*£553,594*	*£4,295,118*
10. SGLT2i indicated but not prescribed	£4,934,046	105	£926,003	*£0*	*£0*	*£313,662*	*£1,239,665*
11. DM and HTN with BP not treated to target	£59,615	58	£949,629	*£359,155*	*£1,503,065*	*£212,100*	*£3,023,950*
12. DM with CVD not on LLT	£11,474	6	£107,670	*£44,087*	*£184,902*	*£20,592*	*£357,251*
Total	**£8,223,617**	**888**	**£13,034,124**	*£3,878,089*	*£16,406,453*	*£3,233,144*	*£36,551,810*

All costs and benefits are discounted

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