

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.

Nottingham and Nottinghamshire ICB Year 3 – Step Change Scenario	
Events prevented: <ul style="list-style-type: none"> • 196 Heart attacks • 364 Strokes • 590 Heart failure admissions • 46 End stage kidney disease 	1,195 events* ~ 9,122 bed days (excl ESKD) <small>*Total events may not match due to rounding</small>
Health/social care savings	£22.5 million
Productivity gains	£25.5 million
Benefit to cost ratio	14.9 <small>(Over £14 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:

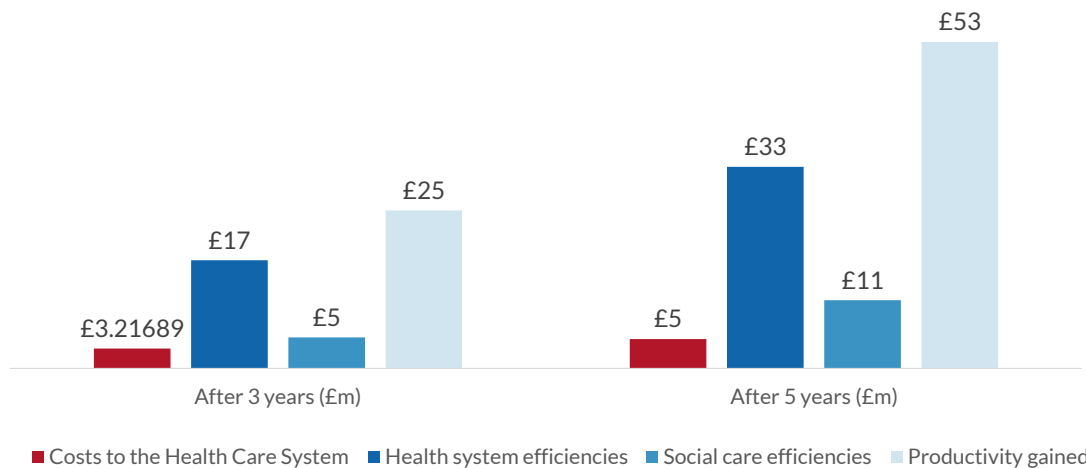
1. **Smart data** - routinely detect patients who are not on optimal treatment, and prioritise for optimisation
2. **Structured support for transformation** enabling teams to adapt workforce and pathways to optimise at scale and within capacity
3. **Partnership with primary care for step change** – supporting 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	Nottingham and Nottinghamshire Integrated Care Board
CVD ACTION optimisation cohort	All
Number of patients optimised in year 1	46,484

	After 3 years	After 5 years
Events Prevented		
Myocardial infarctions	196	320
Strokes (ischaemic)	364	587
Heart failure admissions	590	936
End stage kidney disease	46	73
Total	1,195	1,915
Costs to the Health Care System	£3.2m	£4.7m
Benefits		
Health system efficiencies	£17.5m	£32.5m
Social care efficiencies	£5.0m	£11.0m
Productivity gained	£25.5m	£52.7m
Total	£47.9m	£96.2m
Total Benefits to Costs Ratio (Gross)	14.9	20.3



All costs and benefits are discounted

CVD ACTION: Costs and Benefits by Year

Location: Nottingham and Nottinghamshire 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 CVD ACTION							
Myocardial Infarctions	66	132	196	259	320	607	853
Strokes	125	246	364	476	587	1,092	1,528
Heart failure admissions	206	403	590	766	936	1,687	2,287
End stage kidney disease	16	31	46	60	73	133	181
Costs of CVD ACTION and treatment (discounted)							
CVD ACTION	£256,578	£256,578	£256,578	£256,578	£256,578	£256,578	£256,578
Transformation cost	£320,722	£320,722	£320,722	£320,722	£320,722	£320,722	£320,722
Treatment	£946,590	£1,814,827	£2,639,592	£3,423,392	£4,168,540	£7,386,200	£9,912,829
Total	£1,523,890	£2,392,128	£3,216,892	£4,000,692	£4,745,840	£7,963,500	£10,490,129
Value by economic category (discounted)							
Health costs avoided	£4,814,825	£10,717,506	£17,455,013	£24,765,750	£32,534,077	£74,219,703	£114,341,995
Social care costs avoided	£989,519	£2,689,588	£4,989,274	£7,782,209	£10,992,987	£30,884,177	£52,964,249
Informal care costs avoided	£5,325,014	£12,457,303	£21,107,457	£30,946,586	£41,837,311	£105,177,549	£172,331,195
Lost productivity avoided	£519,246	£2,042,526	£4,379,191	£7,351,784	£10,820,666	£32,337,367	£55,480,829
Total	£11,648,603	£27,906,921	£47,930,935	£70,846,328	£96,185,040	£242,618,797	£395,118,268
Value by clinical event (discounted)							
Myocardial Infarctions	£997,779	£2,252,247	£3,705,731	£5,321,618	£7,049,074	£16,690,948	£26,260,897
Strokes	£9,337,118	£21,544,764	£36,160,994	£52,645,155	£70,796,084	£175,391,992	£285,495,598
Heart failure admissions	£636,589	£2,066,538	£4,099,613	£6,577,612	£9,391,543	£25,794,632	£42,374,894
End stage kidney disease	£677,117	£2,043,371	£3,964,596	£6,301,943	£8,948,339	£24,741,226	£40,986,879
Total	£11,648,603	£27,906,921	£47,930,935	£70,846,328	£96,185,040	£242,618,797	£395,118,268
Benefit to cost ratio (Gross)							
Health costs avoided	3.2	4.5	5.4	6.2	6.9	9.3	10.9
Social care costs avoided	0.6	1.1	1.6	1.9	2.3	3.9	5.0
Informal care costs avoided	3.5	5.2	6.6	7.7	8.8	13.2	16.4
Lost productivity avoided	0.3	0.9	1.4	1.8	2.3	4.1	5.3
Total	7.6	11.7	14.9	17.7	20.3	30.5	37.7

*Numbers less than 10 suppressed

CVD ACTION Optimisation Cohorts Analysis After 3 Years

Location Nottingham and Nottinghamshire 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	£574,180	446	£6,729,720	£2,577,684	£10,923,173	£1,517,346	£21,747,924
Cholesterol							
2. CVD not on Lipid Lowering Therapy (LLT)	£127,531	46	£875,105	£371,766	£1,575,373	£168,067	£2,990,312
3. CVD on suboptimal dose or intensity of statin	£280,101	61	£966,091	£289,734	£1,223,575	£206,606	£2,686,007
4. CVD on max statin but not treated to target	£584,177	25	£482,011	£154,558	£659,473	£91,517	£1,387,558
Chronic Kidney Disease							
5. RAA indicated but not prescribed	£26,337	28	£574,171	£97,565	£419,650	£165,372	£1,256,758
6. SGLT2i indicated but not prescribed	£375,426	133	£1,129,609	£0	£0	£408,734	£1,538,344
7. CVD and Statin not prescribed	£28,350	18	£374,666	£161,837	£692,319	£67,067	£1,295,890
8. BP not treated to target	£33,533	49	£760,482	£295,533	£1,246,902	£172,416	£2,475,334
Diabetes							
9. RAA indicated but not prescribed	£213,239	153	£2,828,426	£519,087	£2,183,885	£818,422	£6,349,819
10. SGLT2i indicated but not prescribed	£877,743	155	£1,368,985	£0	£0	£463,711	£1,832,696
11. DM and HTN with BP not treated to target	£78,945	74	£1,206,571	£456,332	£1,909,751	£269,489	£3,842,142
12. DM with CVD not on LLT	£17,328	8	£159,177	£65,178	£273,356	£30,442	£528,153
Total	£3,216,892	1,195	£17,455,013	£4,989,274	£21,107,457	£4,379,191	£47,930,935

All costs and benefits are discounted

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