

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.

Cluster: Derby and Derbyshire ICB with Lincolnshire ICB and Nottingham and Nottinghamshire ICB Year 3 – Step Change Scenario

Events prevented: <ul style="list-style-type: none"> • 394 Heart attacks • 726 Strokes • 1,199 Heart failure admissions • 94 End stage kidney disease 	2,412 events* ~ 18,457 bed days (excl ESKD) <small>*Total events may not match due to rounding</small>
Health/social care savings	£45.1 million
Productivity gains	£51.0 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:

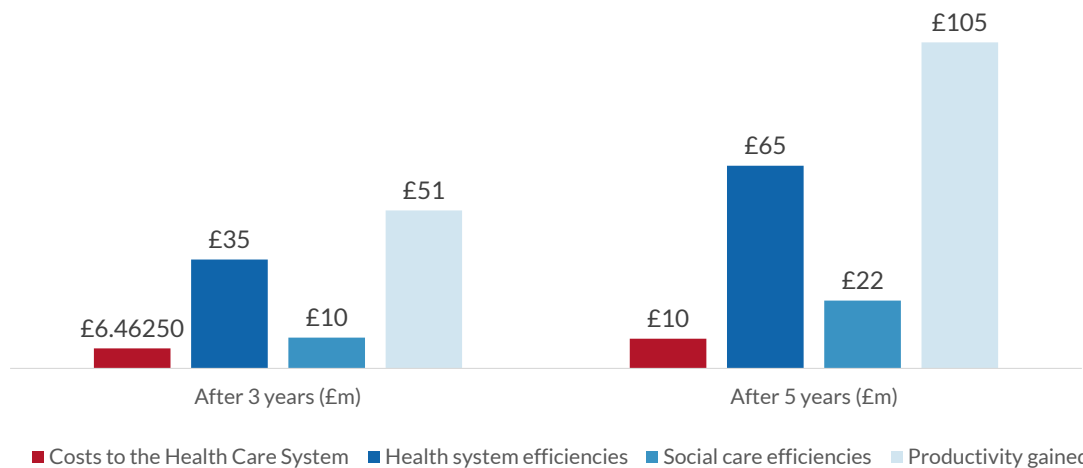
1. **Smart data** - routinely detect patients who are not on optimal treatment, and prioritise for optimisation
2. **Structured support for transformation** enabling teams to adapt workforce and pathways to optimise at scale and within capacity
3. **Partnership with primary care for step change** – supporting 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	Cluster - Derby and Derbyshire ICB with Lincolnshire ICB and with Nottingham and Nottinghamshire ICB
CVD ACTION optimisation cohort	All
Number of patients optimised in year 1	93,132

	After 3 years	After 5 years
Events Prevented		
Myocardial infarctions	394	641
Strokes (ischaemic)	726	1,170
Heart failure admissions	1,199	1,898
End stage kidney disease	94	149
Total	2,412	3,859
Costs to the Health Care System	£6.5m	£9.6m
Benefits		
Health system efficiencies	£35.1m	£65.4m
Social care efficiencies	£10.0m	£21.9m
Productivity gained	£51.0m	£105.2m
Total	£96.0m	£192.5m
Total Benefits to Costs Ratio (Gross)	14.9	20.1



All costs and benefits are discounted

CVD ACTION: Costs and Benefits by Year

Location:

Cluster - Derby and Derbyshire ICB with Lincolnshire ICB and with Nottingham and Nottinghamshire ICB

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	133	266	394	520	641	1,214	1,705
Strokes	249	491	726	950	1,170	2,173	3,037
Heart failure admissions	420	821	1,199	1,556	1,898	3,400	4,589
End stage kidney disease	32	64	94	122	149	271	368
Costs of CVD ACTION and treatment (discounted)							
CVD ACTION	£485,245	£485,245	£485,245	£485,245	£485,245	£485,245	£485,245
Transformation cost	£606,556	£606,556	£606,556	£606,556	£606,556	£606,556	£606,556
Treatment	£1,927,577	£3,693,632	£5,370,702	£6,963,975	£8,478,222	£15,012,015	£20,137,368
Total	£3,019,378	£4,785,432	£6,462,503	£8,055,775	£9,570,022	£16,103,815	£21,229,168
Value by economic category (discounted)							
Health costs avoided	£9,686,683	£21,569,263	£35,124,203	£49,817,463	£65,406,741	£148,683,773	£228,302,762
Social care costs avoided	£1,976,546	£5,369,659	£9,955,842	£15,522,040	£21,916,496	£61,459,109	£105,232,182
Informal care costs avoided	£10,636,620	£24,871,727	£42,121,112	£61,729,716	£83,417,152	£209,323,940	£342,439,153
Lost productivity avoided	£1,044,642	£4,122,193	£8,837,546	£14,825,338	£21,798,963	£64,809,850	£110,730,634
Total	£23,344,490	£55,932,843	£96,038,704	£141,894,557	£192,539,353	£484,276,672	£786,704,731
Value by clinical event (discounted)							
Myocardial Infarctions	£2,004,539	£4,522,679	£7,439,011	£10,678,803	£14,140,314	£33,421,298	£52,501,918
Strokes	£18,650,726	£43,015,577	£72,161,714	£105,013,259	£141,157,939	£349,069,588	£567,318,408
Heart failure admissions	£1,298,164	£4,203,836	£8,320,036	£13,319,062	£18,975,334	£51,639,116	£84,272,490
End stage kidney disease	£1,391,061	£4,190,750	£8,117,944	£12,883,434	£18,265,765	£50,146,670	£82,611,914
Total	£23,344,490	£55,932,843	£96,038,704	£141,894,557	£192,539,353	£484,276,672	£786,704,731
Benefit to cost ratio (Gross)							
Health costs avoided	3.2	4.5	5.4	6.2	6.8	9.2	10.8
Social care costs avoided	0.7	1.1	1.5	1.9	2.3	3.8	5.0
Informal care costs avoided	3.5	5.2	6.5	7.7	8.7	13.0	16.1
Lost productivity avoided	0.3	0.9	1.4	1.8	2.3	4.0	5.2
Total	7.7	11.7	14.9	17.6	20.1	30.1	37.1

*Numbers less than 10 suppressed

CVD ACTION Optimisation Cohorts Analysis After 3 Years

Location Cluster - Derby and Derbyshire ICB with Lincolnshire ICB
and with Nottingham and Nottinghamshire ICB

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	£1,087,338	863	£13,032,019	£4,991,654	£21,152,589	£2,938,322	£42,114,584
Cholesterol							
2. CVD not on Lipid Lowering Therapy (LLT)	£256,588	93	£1,780,473	£756,389	£3,205,227	£341,947	£6,084,036
3. CVD on suboptimal dose or intensity of statin	£563,074	125	£1,979,393	£593,627	£2,506,942	£423,308	£5,503,270
4. CVD on max statin but not treated to target	£1,194,489	51	£987,575	£316,668	£1,351,172	£187,506	£2,842,921
Chronic Kidney Disease							
5. RAA indicated but not prescribed	£57,793	63	£1,277,724	£217,115	£933,862	£368,008	£2,796,709
6. SGLT2i indicated but not prescribed	£831,701	296	£2,513,762	£0	£0	£909,571	£3,423,333
7. CVD and Statin not prescribed	£62,343	40	£833,759	£360,141	£1,540,644	£149,247	£2,883,791
8. BP not treated to target	£72,933	109	£1,692,199	£657,611	£2,774,565	£383,655	£5,508,030
Diabetes							
9. RAA indicated but not prescribed	£416,842	303	£5,606,602	£1,028,951	£4,328,972	£1,622,304	£12,586,829
10. SGLT2i indicated but not prescribed	£1,732,433	307	£2,713,649	£0	£0	£919,185	£3,632,833
11. DM and HTN with BP not treated to target	£153,017	147	£2,391,523	£904,487	£3,785,284	£534,149	£7,615,444
12. DM with CVD not on LLT	£33,953	16	£315,526	£129,198	£541,856	£60,344	£1,046,923
Total	£6,462,503	2,412	£35,124,203	£9,955,842	£42,121,112	£8,837,546	£96,038,704

All costs and benefits are discounted

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