

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.

Herefordshire and Worcestershire ICB Year 3 – Step Change Scenario	
Events prevented: <ul style="list-style-type: none"> • 140 Heart attacks • 253 Strokes • 424 Heart failure admissions • 34 End stage kidney disease 	850 events* ~ 6,516 bed days (excl ESKD) <small>*Total events may not match due to rounding</small>
Health/social care savings	£15.9 million
Productivity gains	£17.8 million
Benefit to cost ratio	14.5 <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:

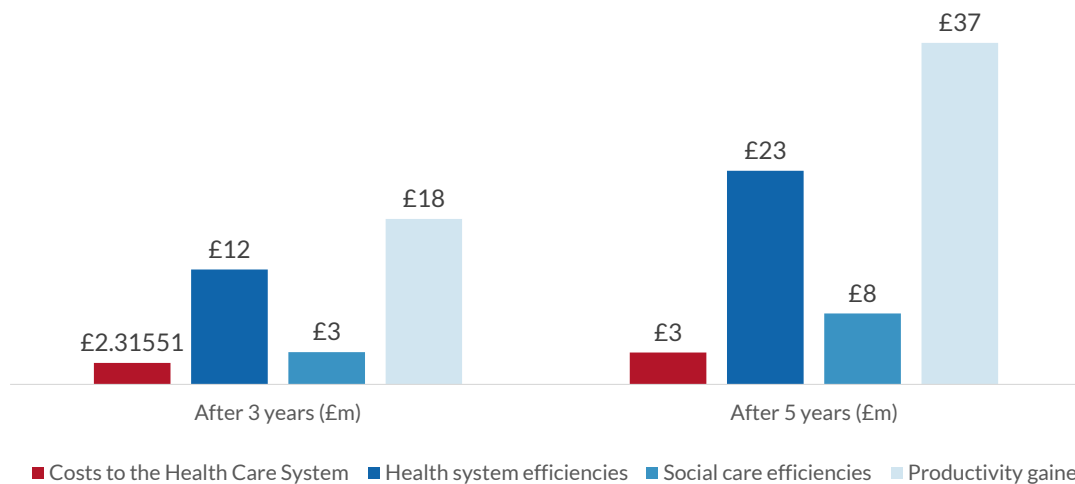
1. **Smart data** - routinely detect patients who are not on optimal treatment, and prioritise for optimisation
2. **Structured support for transformation** enabling teams to adapt workforce and pathways to optimise at scale and within capacity
3. **Partnership with primary care for step change** – supporting 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	Herefordshire and Worcestershire Integrated Care Board
CVD ACTION optimisation cohort	All
Number of patients optimised in year 1	32,743

	After 3 years	After 5 years
Events Prevented		
Myocardial infarctions	140	227
Strokes (ischaemic)	253	408
Heart failure admissions	424	669
End stage kidney disease	34	53
Total	850	1,357
Costs to the Health Care System	£2.3m	£3.4m
Benefits		
Health system efficiencies	£12.4m	£23.0m
Social care efficiencies	£3.5m	£7.6m
Productivity gained	£17.8m	£36.7m
Total	£33.6m	£67.4m
Total Benefits to Costs Ratio (Gross)	14.5	19.6



All costs and benefits are discounted

CVDAction: Costs and Benefits by Year

Location: Herefordshire and Worcestershire 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	47	94	140	184	227	429	601
Strokes	87	171	253	331	408	757	1,057
Heart failure admissions	149	290	424	549	669	1,190	1,597
End stage kidney disease	12	23	34	44	53	96	130
Costs of CVDAction and treatment (discounted)							
CVDAction	£166,721	£166,721	£166,721	£166,721	£166,721	£166,721	£166,721
Transformation cost	£208,402	£208,402	£208,402	£208,402	£208,402	£208,402	£208,402
Treatment	£696,880	£1,334,780	£1,940,384	£2,515,589	£3,062,139	£5,419,090	£7,266,600
Total	£1,072,003	£1,709,903	£2,315,507	£2,890,712	£3,437,261	£5,794,213	£7,641,722
Value by economic category (discounted)							
Health costs avoided	£3,409,896	£7,593,384	£12,361,440	£17,522,530	£22,988,994	£52,029,490	£79,570,761
Social care costs avoided	£689,646	£1,872,415	£3,470,214	£5,408,411	£7,634,071	£21,381,992	£36,574,069
Informal care costs avoided	£3,711,273	£8,674,618	£14,684,991	£21,513,947	£29,063,495	£72,842,273	£119,044,601
Lost productivity avoided	£367,734	£1,454,104	£3,115,973	£5,221,558	£7,668,091	£22,656,847	£38,517,410
Total	£8,178,550	£19,594,521	£33,632,618	£49,666,446	£67,354,651	£168,910,602	£273,706,840
Value by clinical event (discounted)							
Myocardial Infarctions	£710,793	£1,602,486	£2,635,293	£3,781,892	£5,006,563	£11,811,169	£18,522,607
Strokes	£6,507,513	£15,003,031	£25,158,873	£36,600,102	£49,182,552	£121,476,143	£197,227,817
Heart failure admissions	£460,049	£1,485,290	£2,931,424	£4,680,044	£6,650,036	£17,896,809	£28,970,208
End stage kidney disease	£500,195	£1,503,714	£2,907,028	£4,604,408	£6,515,499	£17,726,481	£28,986,208
Total	£8,178,550	£19,594,521	£33,632,618	£49,666,446	£67,354,651	£168,910,602	£273,706,840
Benefit to cost ratio (Gross)							
Health costs avoided	3.2	4.4	5.3	6.1	6.7	9.0	10.4
Social care costs avoided	0.6	1.1	1.5	1.9	2.2	3.7	4.8
Informal care costs avoided	3.5	5.1	6.3	7.4	8.5	12.6	15.6
Lost productivity avoided	0.3	0.9	1.3	1.8	2.2	3.9	5.0
Total	7.6	11.5	14.5	17.2	19.6	29.2	35.8

*Numbers less than 10 suppressed

CVD ACTION Optimisation Cohorts Analysis After 3 Years

Location Herefordshire and Worcestershire 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	£358,202	287	£4,330,625	£1,658,759	£7,029,143	£976,424	£13,994,950
Cholesterol							
2. CVD not on Lipid Lowering Therapy (LLT)	£119,155	43	£830,402	£352,775	£1,494,898	£159,482	£2,837,557
3. CVD on suboptimal dose or intensity of statin	£202,640	45	£717,630	£215,220	£908,893	£153,471	£1,995,214
4. CVD on max statin but not treated to target	£432,728	19	£358,046	£114,808	£489,868	£67,980	£1,030,703
Chronic Kidney Disease							
5. RAA indicated but not prescribed	£22,309	24	£495,923	£84,269	£362,460	£142,835	£1,085,486
6. SGLT2i indicated but not prescribed	£322,250	115	£975,666	£0	£0	£353,032	£1,328,698
7. CVD and Statin not prescribed	£24,086	15	£323,607	£139,781	£597,970	£57,927	£1,119,285
8. BP not treated to target	£24,450	37	£572,357	£222,426	£938,448	£129,765	£1,862,996
Diabetes							
9. RAA indicated but not prescribed	£145,313	106	£1,965,050	£360,636	£1,517,255	£568,599	£4,411,540
10. SGLT2i indicated but not prescribed	£606,196	107	£951,103	£0	£0	£322,164	£1,273,267
11. DM and HTN with BP not treated to target	£46,331	45	£730,444	£276,258	£1,156,141	£163,145	£2,325,988
12. DM with CVD not on LLT	£11,847	6	£110,588	£45,282	£189,914	£21,150	£366,935
Total	£2,315,507	850	£12,361,440	£3,470,214	£14,684,991	£3,115,973	£33,632,618

All costs and benefits are discounted

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