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.

West Yorkshire ICB **Year 3 – Step Change Scenario**	
Events prevented: • 403 Heart attacks • 710 Strokes • 1190 Heart failure admissions • 97 End stage kidney disease	**2,401 events*** **~ 18,348 bed days** (excl ESKD) *Total events may not match due to rounding
Health/social care savings	**£45 million**
Productivity gains	**£50 million**
Benefit to cost ratio	**3.5** (Over £3 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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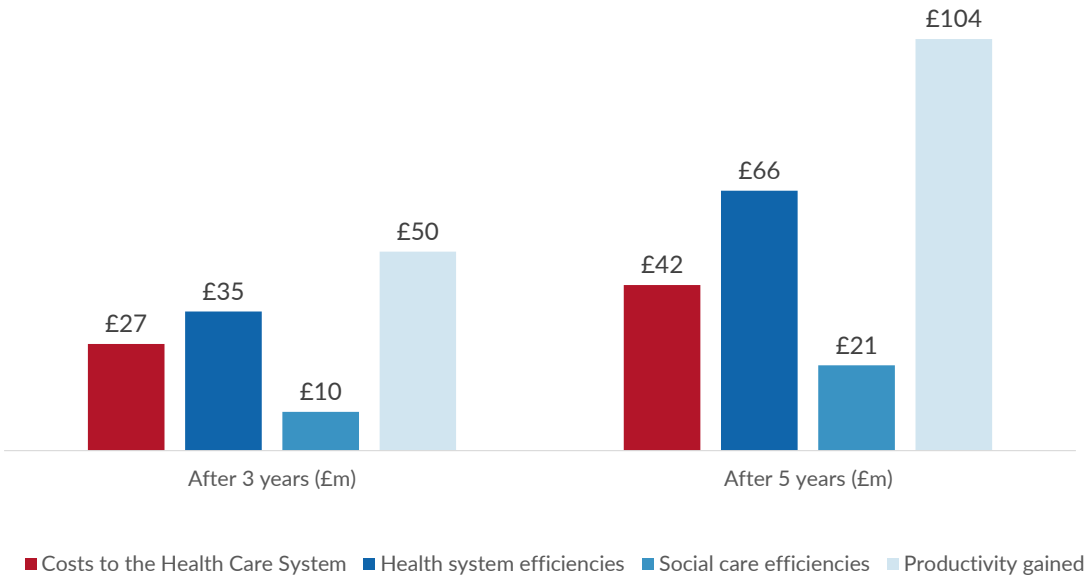
CVDACTION Modelled Impact (Step Change Scenario)

Headline Costs and Benefits

Location	West Yorkshire Integrated Care Board
CVDACTION optimisation cohort	All
Number of patients optimised in year 1	93,311

	After 3 years	After 5 years
Events Prevented		
Myocardial infarctions	403	657
Strokes (ischaemic)	710	1,146
Heart failure admissions	1,190	1,891
End stage kidney disease	97	155
Total	**2,401**	**3,849**
Costs to the Health Care System	**£27m**	**£42m**
Benefits		
Health system efficiencies	£35m	£66m
Social care efficiencies	£10m	£21m
Productivity gained	£50m	£104m
Total	**£95m**	**£191m**
Total Benefits to Costs Ratio (Gross)	**3.5**	**4.6**



All costs and benefits are discounted

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CVDACTION: Costs and Benefits by Year

Location: West Yorkshire 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	137	272	403	532	657	1,244	1,746
Strokes	244	480	710	930	1,146	2,133	2,984
Heart failure admissions	415	814	1,190	1,548	1,891	3,407	4,618
End stage kidney disease	33	66	97	127	155	282	385
Costs of CVDACTION and treatment (discounted)							
CVDACTION	£540,161	£540,161	£540,161	£540,161	£540,161	£540,161	£540,161
Transformation cost	£675,202	£675,202	£675,202	£675,202	£675,202	£675,202	£675,202
Treatment	£9,240,140	£17,670,910	£25,678,640	£33,288,635	£40,523,562	£71,783,896	£96,392,098
Total	**£10,455,503**	**£18,886,273**	**£26,894,003**	**£34,503,998**	**£41,738,925**	**£72,999,259**	**£97,607,461**
Value by economic category (discounted)							
Health costs avoided	£9,640,491	£21,506,462	£35,081,979	£49,838,324	£65,526,122	£149,667,912	£230,298,449
Social care costs avoided	£1,934,088	£5,258,067	£9,754,458	£15,214,433	£21,489,922	£60,314,626	£103,274,210
Informal care costs avoided	£10,408,137	£24,349,019	£41,256,522	£60,490,684	£81,776,170	£205,422,775	£336,104,475
Lost productivity avoided	£1,039,660	£4,126,554	£8,871,960	£14,911,545	£21,957,824	£65,571,006	£112,190,686
Total	**£23,022,376**	**£55,240,101**	**£94,964,920**	**£140,454,986**	**£190,750,038**	**£480,976,319**	**£781,867,821**
Value by clinical event (discounted)							
Myocardial Infarctions	£2,050,307	£4,622,415	£7,600,273	£10,907,883	£14,439,915	£34,028,298	£53,283,995
Strokes	£18,250,093	£42,110,553	£70,678,134	£102,902,298	£138,377,442	£342,563,246	£556,832,766
Heart failure admissions	£1,284,561	£4,169,179	£8,268,584	£13,261,562	£18,925,388	£51,806,899	£84,728,779
End stage kidney disease	£1,437,414	£4,337,955	£8,417,929	£13,383,243	£19,007,294	£52,577,876	£87,022,280
Total	**£23,022,376**	**£55,240,101**	**£94,964,920**	**£140,454,986**	**£190,750,038**	**£480,976,319**	**£781,867,821**
Benefit to cost ratio (Gross)							
Health costs avoided	0.9	1.1	1.3	1.4	1.6	2.1	2.4
Social care costs avoided	0.2	0.3	0.4	0.4	0.5	0.8	1.1
Informal care costs avoided	1.0	1.3	1.5	1.8	2.0	2.8	3.4
Lost productivity avoided	0.1	0.2	0.3	0.4	0.5	0.9	1.1
Total	**2.2**	**2.9**	**3.5**	**4.1**	**4.6**	**6.6**	**8.0**

*Numbers less than 10 suppressed

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CVDACTION Optimisation Cohorts Analysis After 3 Years

Location West Yorkshire 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	£1,039,034	791	£11,948,518	*£4,576,640*	*£19,393,931*	*£2,694,026*	*£38,613,115*
Cholesterol							
2. CVD not on Lipid Lowering Therapy (LLT)	£312,433	111	£2,123,342	*£902,048*	*£3,822,463*	*£407,796*	*£7,255,650*
3. CVD on suboptimal dose or intensity of statin	£588,375	126	£1,996,617	*£598,793*	*£2,528,757*	*£426,992*	*£5,551,158*
4. CVD on max statin but not treated to target	£1,209,433	52	£996,169	*£319,424*	*£1,362,929*	*£189,138*	*£2,867,660*
Chronic Kidney Disease							
5. RAA indicated but not prescribed	£51,595	55	£1,111,323	*£188,840*	*£812,243*	*£320,081*	*£2,432,486*
6. SGLT2i indicated but not prescribed	£6,026,638	257	£2,186,388	*£0*	*£0*	*£791,115*	*£2,977,503*
7. CVD and Statin not prescribed	£55,437	35	£725,176	*£313,239*	*£1,340,002*	*£129,811*	*£2,508,227*
8. BP not treated to target	£61,475	88	£1,367,291	*£531,348*	*£2,241,838*	*£309,992*	*£4,450,468*
Diabetes							
9. RAA indicated but not prescribed	£497,502	352	£6,520,446	*£1,196,664*	*£5,034,569*	*£1,886,731*	*£14,638,410*
10. SGLT2i indicated but not prescribed	£16,839,428	357	£3,155,958	*£0*	*£0*	*£1,069,006*	*£4,224,964*
11. DM and HTN with BP not treated to target	£172,307	158	£2,583,797	*£977,207*	*£4,089,614*	*£577,093*	*£8,227,711*
12. DM with CVD not on LLT	£40,346	19	£366,954	*£150,256*	*£630,175*	*£70,180*	*£1,217,566*
Total	**£26,894,003**	**2,401**	**£35,081,979**	*£9,754,458*	*£41,256,522*	*£8,871,960*	*£94,964,920*

All costs and benefits are discounted

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

Model by GtD SOCIAL IMPACT ANALYTICS

Economic analyiss by EBD.