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.

England **Year 3 – Step Change Scenario**	
Events prevented: • 10,163 Heart attacks • 19,200 Strokes • 30,126 Heart failure admissions • 2,309 End stage kidney disease	61,799 events* ~ 470,000 bed days (excl ESKD) *Total events may not match due to rounding
Health/social care savings	£1.2 billion
Productivity gains	£1.3 billion
Benefit to cost ratio	4.1 (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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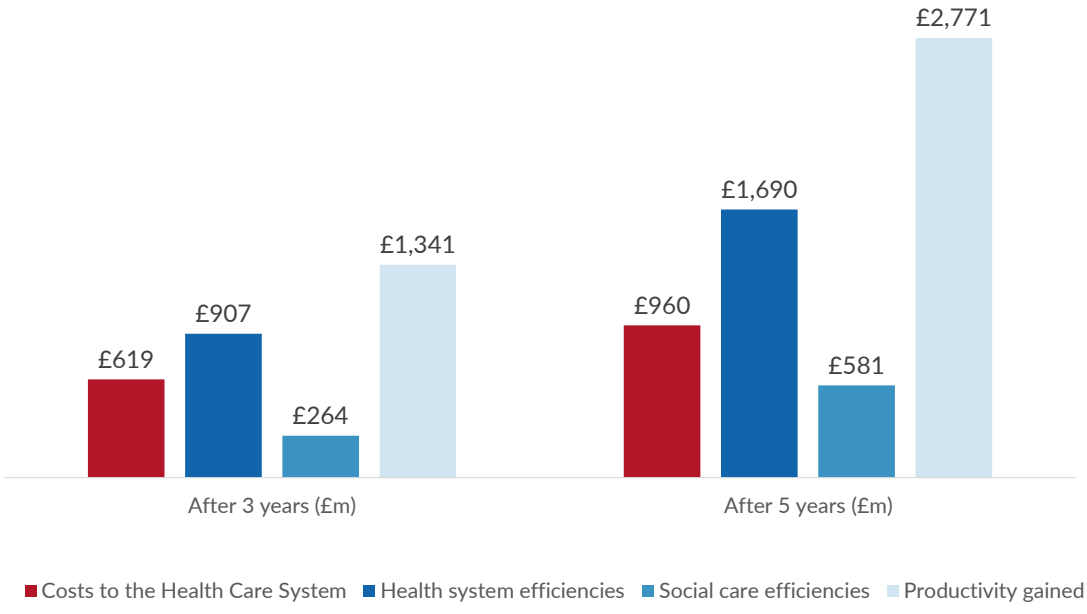
CVDACTION Modelled Impact (Step Change Scenario)

Headline Costs and Benefits

Location	England
CVDACTION optimisation cohort	All
Number of patients optimised in year 1	2,397,027

	After 3 years	After 5 years
Events Prevented		
Myocardial infarctions	10,163	16,556
Strokes (ischaemic)	19,200	31,000
Heart failure admissions	30,126	47,918
End stage kidney disease	2,309	3,684
Total	**61,799**	**99,158**
Costs to the Health Care System	**£619m**	**£960m**
Benefits		
Health system efficiencies	£907m	£1,690m
Social care efficiencies	£264m	£581m
Productivity gained	£1,341m	£2,771m
Total	**£2,512m**	**£5,042m**
Total Benefits to Costs Ratio (Gross)	**4.1**	**5.3**



All costs and benefits are discounted

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CVDACTION: Costs and Benefits by Year

Location: England

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	3,439	6,846	10,163	13,419	16,556	31,477	44,320
Strokes	6,581	12,970	19,200	25,149	31,000	57,733	80,875
Heart failure admissions	10,500	20,584	30,126	39,200	47,918	86,701	117,983
End stage kidney disease	793	1,564	2,309	3,013	3,684	6,738	9,221
Costs of CVDACTION and treatment (discounted)							
CVDACTION	£12,758,145	£12,758,145	£12,758,145	£12,758,145	£12,758,145	£12,758,145	£12,758,145
Transformation cost	£15,947,682	£15,947,682	£15,947,682	£15,947,682	£15,947,682	£15,947,682	£15,947,682
Treatment	£212,533,290	£406,256,476	£590,200,757	£764,956,053	£931,051,234	£1,648,201,226	£2,212,225,026
Total	**£241,239,117**	**£434,962,303**	**£618,906,584**	**£793,661,881**	**£959,757,062**	**£1,676,907,053**	**£2,240,930,853**
Value by economic category (discounted)							
Health costs avoided	£250,677,068	£557,199,229	£906,953,128	£1,286,484,646	£1,690,085,346	£3,862,077,286	£5,963,358,615
Social care costs avoided	£52,236,004	£142,006,589	£263,540,212	£411,209,237	£581,057,937	£1,634,716,409	£2,806,850,420
Informal care costs avoided	£281,103,798	£657,690,163	£1,114,850,602	£1,635,032,714	£2,211,117,757	£5,566,067,028	£9,130,769,886
Lost productivity avoided	£27,033,794	£105,656,464	£226,269,737	£379,878,420	£559,396,984	£1,677,912,443	£2,888,594,007
Total	**£611,050,664**	**£1,462,552,444**	**£2,511,613,678**	**£3,712,605,017**	**£5,041,658,023**	**£12,740,773,166**	**£20,789,572,929**
Value by clinical event (discounted)							
Myocardial Infarctions	£51,632,017	£116,593,596	£191,911,926	£275,725,879	£365,403,916	£867,137,459	£1,366,955,387
Strokes	£492,899,992	£1,137,461,082	£1,909,932,228	£2,781,420,562	£3,741,540,637	£9,281,620,002	£15,126,177,123
Heart failure admissions	£32,464,055	£105,589,410	£209,849,640	£337,277,061	£482,373,880	£1,334,307,271	£2,203,363,048
End stage kidney disease	£34,054,599	£102,908,357	£199,919,884	£318,181,516	£452,339,591	£1,257,708,434	£2,093,077,371
Total	**£611,050,664**	**£1,462,552,444**	**£2,511,613,678**	**£3,712,605,017**	**£5,041,658,023**	**£12,740,773,166**	**£20,789,572,929**
Benefit to cost ratio (Gross)							
Health costs avoided	1.0	1.3	1.5	1.6	1.8	2.3	2.7
Social care costs avoided	0.2	0.3	0.4	0.5	0.6	1.0	1.3
Informal care costs avoided	1.2	1.5	1.8	2.1	2.3	3.3	4.1
Lost productivity avoided	0.1	0.2	0.4	0.5	0.6	1.0	1.3
Total	**2.5**	**3.4**	**4.1**	**4.7**	**5.3**	**7.6**	**9.3**

*Numbers less than 10 suppressed

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CVDACTION Optimisation Cohorts Analysis After 3 Years

Location England

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	£30,063,390	23,672	£357,390,856	*£136,891,413*	*£580,089,843*	*£80,580,725*	*£1,154,952,838*
Cholesterol							
2. CVD not on Lipid Lowering Therapy (LLT)	£7,916,161	2,863	£54,707,591	*£23,241,141*	*£98,485,182*	*£10,506,798*	*£186,940,712*
3. CVD on suboptimal dose or intensity of statin	£13,115,488	2,897	£45,786,417	*£13,731,510*	*£57,989,448*	*£9,791,777*	*£127,299,152*
4. CVD on max statin but not treated to target	£27,650,616	1,184	£22,844,146	*£7,325,021*	*£31,254,697*	*£4,337,306*	*£65,761,170*
Chronic Kidney Disease							
5. RAA indicated but not prescribed	£1,244,389	1,345	£27,371,581	*£4,651,074*	*£20,005,326*	*£7,883,512*	*£59,911,493*
6. SGLT2i indicated but not prescribed	£148,313,435	6,338	£53,850,158	*£0*	*£0*	*£19,484,960*	*£73,335,118*
7. CVD and Statin not prescribed	£1,341,307	854	£17,860,896	*£7,714,987*	*£33,003,894*	*£3,197,200*	*£61,776,977*
8. BP not treated to target	£1,698,442	2,513	£39,080,148	*£15,187,068*	*£64,076,618*	*£8,860,236*	*£127,204,071*
Diabetes							
9. RAA indicated but not prescribed	£10,762,180	7,774	£144,020,768	*£26,431,401*	*£111,201,363*	*£41,673,285*	*£323,326,816*
10. SGLT2i indicated but not prescribed	£371,653,124	7,878	£69,707,420	*£0*	*£0*	*£23,611,748*	*£93,319,168*
11. DM and HTN with BP not treated to target	£4,272,196	4,058	£66,228,017	*£25,047,808*	*£104,825,193*	*£14,792,086*	*£210,893,104*
12. DM with CVD not on LLT	£875,856	424	£8,105,131	*£3,318,789*	*£13,919,038*	*£1,550,103*	*£26,893,060*
Total	**£618,906,584**	**61,800**	**£906,953,128**	*£263,540,212*	*£1,114,850,602*	*£226,269,737*	*£2,511,613,678*

All costs and benefits are discounted

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