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: Bristol, North Somerset and South Gloucestershire ICB with South Gloucestershire ICB Year 3 – Step Change Scenario	
Events prevented: • 284 Heart attacks • 543 Strokes • 844 Heart failure admissions • 64 End stage kidney disease	**1,734 events*** **~ 13,160 bed days** (excl ESKD) *Total events may not match due to rounding
Health/social care savings	**£32.8 million**
Productivity gains	**£37.8 million**
Benefit to cost ratio	**15.7** (Over £15 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

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

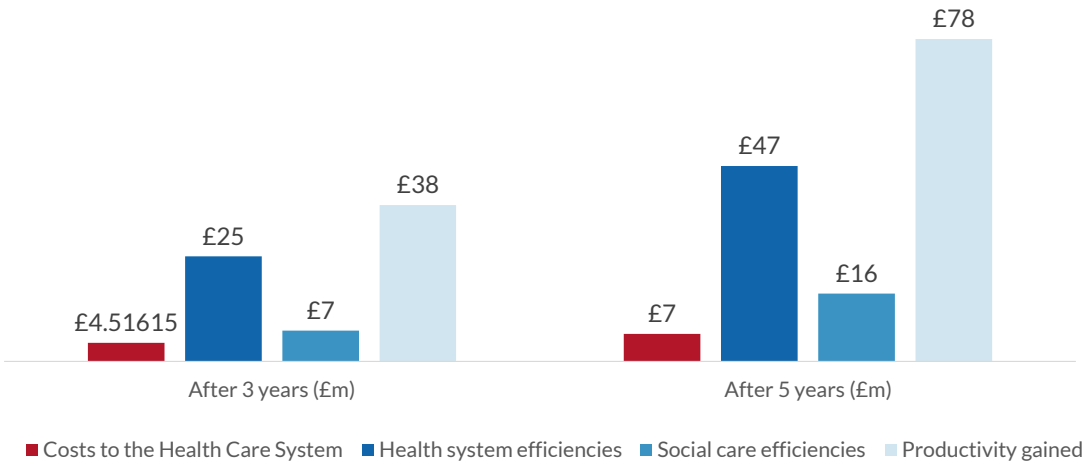
3. **Partnership with primary care for step change** – supporting teams to set and achieve step-change objectives in secondary prevention

For more information on CVDACTION contact Rosa@Into-Action.Health

CVDACTION Modelled Impact (Step Change Scenario)
Headline Costs and Benefits

Location	Cluster - Bristol, North Somerset and South Gloucestershire ICB with Gloucestershire ICB
CVDACTION optimisation cohort	All
Number of patients optimised in year 1	67,004

	After 3 years	After 5 years
Events Prevented		
Myocardial infarctions	284	462
Strokes (ischaemic)	543	875
Heart failure admissions	844	1,337
End stage kidney disease	64	102
Total	**1,734**	**2,777**
Costs to the Health Care System	**£4.5m**	**£6.7m**
Benefits		
Health system efficiencies	£25.4m	£47.3m
Social care efficiencies	£7.4m	£16.4m
Productivity gained	£37.8m	£78.0m
Total	**£70.7m**	**£141.7m**
Total Benefits to Costs Ratio (Gross)	**15.7**	**21.3**



All costs and benefits are discounted

CVDACTION: Costs and Benefits by Year

Location: Cluster - Bristol, North Somerset and South Gloucestershire ICB with Gloucestershire 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 CVDACTION							
Myocardial Infarctions	96	191	284	375	462	877	1,233
Strokes	186	367	543	711	875	1,628	2,277
Heart failure admissions	295	577	844	1,096	1,337	2,402	3,252
End stage kidney disease	22	43	64	83	102	185	252
Costs of CVDACTION and treatment (discounted)							
CVDACTION	£358,799	£358,799	£358,799	£358,799	£358,799	£358,799	£358,799
Transformation cost	£448,499	£448,499	£448,499	£448,499	£448,499	£448,499	£448,499
Treatment	£1,330,280	£2,550,152	£3,708,848	£4,809,910	£5,856,605	£10,375,769	£13,924,022
Total	**£2,137,577**	**£3,357,449**	**£4,516,146**	**£5,617,208**	**£6,663,903**	**£11,183,067**	**£14,731,320**
Value by economic category (discounted)							
Health costs avoided	£7,054,144	£15,656,570	£25,448,493	£36,048,055	£47,295,243	£107,494,035	£165,386,053
Social care costs avoided	£1,477,562	£4,013,643	£7,444,604	£11,610,853	£16,400,139	£46,076,593	£79,045,533
Informal care costs avoided	£7,951,379	£18,592,565	£31,499,603	£46,176,057	£62,418,985	£156,897,837	£257,141,876
Lost productivity avoided	£760,741	£2,962,017	£6,329,108	£10,606,601	£15,594,634	£46,504,300	£79,774,839
Total	**£17,243,825**	**£41,224,795**	**£70,721,809**	**£104,441,567**	**£141,709,001**	**£356,972,766**	**£581,348,301**
Value by clinical event (discounted)							
Myocardial Infarctions	£1,444,880	£3,262,025	£5,369,729	£7,714,382	£10,223,530	£24,266,647	£38,269,155
Strokes	£13,942,304	£32,156,090	£53,965,557	£78,553,865	£105,624,529	£261,635,457	£425,986,345
Heart failure admissions	£912,268	£2,958,929	£5,865,464	£9,404,056	£13,418,521	£36,779,634	£60,391,077
End stage kidney disease	£944,374	£2,847,751	£5,521,059	£8,769,264	£12,442,421	£34,291,028	£56,701,725
Total	**£17,243,825**	**£41,224,795**	**£70,721,809**	**£104,441,567**	**£141,709,001**	**£356,972,766**	**£581,348,301**
Benefit to cost ratio (Gross)							
Health costs avoided	3.3	4.7	5.6	6.4	7.1	9.6	11.2
Social care costs avoided	0.7	1.2	1.6	2.1	2.5	4.1	5.4
Informal care costs avoided	3.7	5.5	7.0	8.2	9.4	14.0	17.5
Lost productivity avoided	0.4	0.9	1.4	1.9	2.3	4.2	5.4
Total	**8.1**	**12.3**	**15.7**	**18.6**	**21.3**	**31.9**	**39.5**

*Numbers less than 10 suppressed

CVDACTION Optimisation Cohorts Analysis After 3 Years

Location

Cluster - Bristol, North Somerset and South Gloucestershire ICB with Gloucestershire ICB

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	£833,065	654	£9,880,248	*£3,784,431*	*£16,036,872*	*£2,227,694*	*£31,929,246*
Cholesterol							
2. CVD not on Lipid Lowering Therapy (LLT)	£264,690	96	£1,827,098	*£776,196*	*£3,289,161*	*£350,901*	*£6,243,356*
3. CVD on suboptimal dose or intensity of statin	£374,101	82	£1,303,394	*£390,892*	*£1,650,775*	*£278,741*	*£3,623,802*
4. CVD on max statin but not treated to target	£787,291	34	£650,300	*£208,520*	*£889,722*	*£123,469*	*£1,872,011*
Chronic Kidney Disease							
5. RAA indicated but not prescribed	£39,504	43	£867,664	*£147,436*	*£634,158*	*£249,903*	*£1,899,160*
6. SGLT2i indicated but not prescribed	£565,973	201	£1,707,020	*£0*	*£0*	*£617,662*	*£2,324,682*
7. CVD and Statin not prescribed	£42,572	27	£566,180	*£244,561*	*£1,046,205*	*£101,349*	*£1,958,295*
8. BP not treated to target	£54,156	80	£1,243,118	*£483,092*	*£2,038,242*	*£281,839*	*£4,046,292*
Diabetes							
9. RAA indicated but not prescribed	£276,782	200	£3,698,530	*£678,773*	*£2,855,710*	*£1,070,192*	*£8,303,206*
10. SGLT2i indicated but not prescribed	£1,145,140	202	£1,790,124	*£0*	*£0*	*£606,362*	*£2,396,486*
11. DM and HTN with BP not treated to target	£110,351	105	£1,706,674	*£645,474*	*£2,701,310*	*£381,187*	*£5,434,644*
12. DM with CVD not on LLT	£22,520	11	£208,144	*£85,228*	*£357,448*	*£39,807*	*£690,628*
Total	**£4,516,146**	**1,734**	**£25,448,493**	*£7,444,604*	*£31,499,603*	*£6,329,108*	*£70,721,809*

All costs and benefits are discounted

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