

## 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.

Bath and North East Somerset, Swindon and Wiltshire ICB Year 3 – Step Change Scenario	
<b>Events prevented:</b> <ul style="list-style-type: none"> <li>• 158 Heart attacks</li> <li>• 290 Strokes</li> <li>• 458 Heart failure admissions</li> <li>• 36 End stage kidney disease</li> </ul>	<b>942 events*</b> <b>~ 7,146 bed days</b> (excl ESKD) <small>*Total events may not match due to rounding</small>
<b>Health/social care savings</b>	<b>£17.8 million</b>
<b>Productivity gains</b>	<b>£20.3 million</b>
<b>Benefit to cost ratio</b>	<b>14.8</b> <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](http://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:

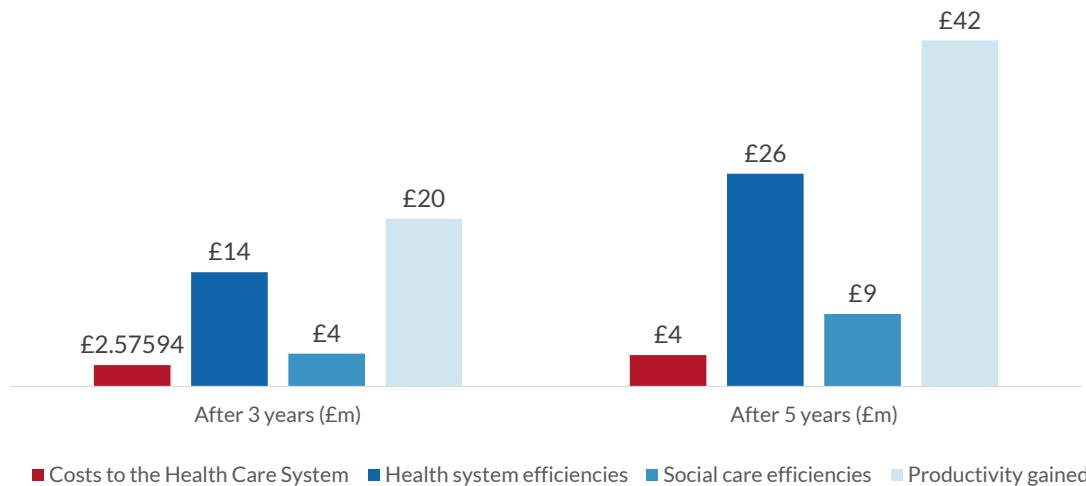
1. **Smart data** - routinely detect patients who are not on optimal treatment, and prioritise for optimisation
2. **Structured support for transformation** enabling teams to adapt workforce and pathways to optimise at scale and within capacity
3. **Partnership with primary care for step change** – supporting teams to set and achieve step-change objectives in secondary prevention

For more information on CVD ACTION contact [Rosa@Into-Action.Health](mailto:Rosa@Into-Action.Health)

## CVD ACTION Modelled Impact (Step Change Scenario) Headline Costs and Benefits

Location	Bath and North East Somerset, Swindon and Wiltshire Integrated Care Board
CVD ACTION optimisation cohort	All
Number of patients optimised in year 1	36,945

	After 3 years	After 5 years
<b>Events Prevented</b>		
Myocardial infarctions	158	257
Strokes (ischaemic)	290	468
Heart failure admissions	458	727
End stage kidney disease	36	57
<b>Total</b>	<b>942</b>	<b>1,509</b>
<b>Costs to the Health Care System</b>	<b>£2.6m</b>	<b>£3.8m</b>
<b>Benefits</b>		
Health system efficiencies	£13.8m	£25.7m
Social care efficiencies	£4.0m	£8.8m
Productivity gained	£20.3m	£41.9m
<b>Total</b>	<b>£38.1m</b>	<b>£76.4m</b>
<b>Total Benefits to Costs Ratio (Gross)</b>	<b>14.8</b>	<b>20.1</b>



All costs and benefits are discounted

# CVD ACTION: Costs and Benefits by Year

**Location:**

Bath and North East Somerset, Swindon and Wiltshire 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
<b>Number avoided with CVD ACTION</b>							
Myocardial Infarctions	53	106	158	208	257	487	684
Strokes	99	196	290	380	468	871	1,219
Heart failure admissions	160	313	458	596	727	1,310	1,776
End stage kidney disease	12	24	36	47	57	103	141
<b>Costs of CVD ACTION and treatment (discounted)</b>							
CVD ACTION	£202,533	£202,533	£202,533	£202,533	£202,533	£202,533	£202,533
Transformation cost	£253,167	£253,167	£253,167	£253,167	£253,167	£253,167	£253,167
Treatment	£760,187	£1,457,648	£2,120,237	£2,749,960	£3,348,671	£5,934,427	£7,965,299
<b>Total</b>	<b>£1,215,886</b>	<b>£1,913,347</b>	<b>£2,575,936</b>	<b>£3,205,660</b>	<b>£3,804,370</b>	<b>£6,390,126</b>	<b>£8,420,999</b>
<b>Value by economic category (discounted)</b>							
Health costs avoided	£3,823,528	£8,498,466	£13,827,518	£19,604,437	£25,739,631	£58,620,497	£90,232,362
Social care costs avoided	£789,115	£2,144,389	£3,978,038	£6,205,139	£8,765,794	£24,635,583	£42,259,479
Informal care costs avoided	£4,246,559	£9,933,284	£16,830,769	£24,676,976	£33,362,859	£83,897,250	£137,497,038
Lost productivity avoided	£412,341	£1,613,198	£3,453,135	£5,792,552	£8,521,909	£25,445,033	£43,638,224
<b>Total</b>	<b>£9,271,543</b>	<b>£22,189,336</b>	<b>£38,089,460</b>	<b>£56,279,104</b>	<b>£76,390,193</b>	<b>£192,598,362</b>	<b>£313,627,103</b>
<b>Value by clinical event (discounted)</b>							
Myocardial Infarctions	£802,938	£1,811,689	£2,981,509	£4,282,078	£5,673,126	£13,434,975	£21,139,219
Strokes	£7,446,106	£17,179,702	£28,834,498	£41,979,880	£56,456,206	£139,905,291	£227,786,040
Heart failure admissions	£494,983	£1,606,456	£3,186,342	£5,111,149	£7,296,211	£20,022,514	£32,868,484
End stage kidney disease	£527,516	£1,591,490	£3,087,109	£4,905,998	£6,964,650	£19,235,582	£31,833,360
<b>Total</b>	<b>£9,271,543</b>	<b>£22,189,336</b>	<b>£38,089,460</b>	<b>£56,279,104</b>	<b>£76,390,193</b>	<b>£192,598,362</b>	<b>£313,627,103</b>
<b>Benefit to cost ratio (Gross)</b>							
Health costs avoided	3.1	4.4	5.4	6.1	6.8	9.2	10.7
Social care costs avoided	0.6	1.1	1.5	1.9	2.3	3.9	5.0
Informal care costs avoided	3.5	5.2	6.5	7.7	8.8	13.1	16.3
Lost productivity avoided	0.3	0.8	1.3	1.8	2.2	4.0	5.2
<b>Total</b>	<b>7.6</b>	<b>11.6</b>	<b>14.8</b>	<b>17.6</b>	<b>20.1</b>	<b>30.1</b>	<b>37.2</b>

\*Numbers less than 10 suppressed

## CVD ACTION Optimisation Cohorts Analysis After 3 Years

**Bath and North East Somerset, Swindon and Wiltshire**

**Location Integrated Care Board**

### Step Change Scenario After 3 Years

Optimisation Cohort	Health System Costs	CVD Events Prevented <sup>1</sup>	Health System Efficiencies	Social Care Efficiencies	Informal Care Avoided	Productivity Gained	Total Benefits
Hypertension							
1. Blood pressure not treated to target	£435,562	339	£5,118,808	£1,960,657	£8,308,463	£1,154,135	£16,542,063
Cholesterol							
2. CVD not on Lipid Lowering Therapy (LLT)	£147,904	53	£1,016,279	£431,741	£1,829,517	£195,180	£3,472,717
3. CVD on suboptimal dose or intensity of statin	£227,879	50	£787,782	£236,259	£997,743	£168,473	£2,190,257
4. CVD on max statin but not treated to target	£476,240	20	£393,047	£126,031	£537,755	£74,626	£1,131,460
Chronic Kidney Disease							
5. RAA indicated but not prescribed	£20,490	22	£447,451	£76,032	£327,033	£128,874	£979,390
6. SGLT2i indicated but not prescribed	£292,410	104	£880,304	£0	£0	£318,526	£1,198,830
7. CVD and Statin not prescribed	£22,061	14	£291,977	£126,119	£539,524	£52,266	£1,009,886
8. BP not treated to target	£24,909	36	£566,443	£220,127	£928,751	£128,424	£1,843,744
Diabetes							
9. RAA indicated but not prescribed	£167,119	120	£2,220,427	£407,504	£1,714,437	£642,494	£4,984,863
10. SGLT2i indicated but not prescribed	£688,703	121	£1,074,708	£0	£0	£364,032	£1,438,740
11. DM and HTN with BP not treated to target	£59,076	55	£905,331	£342,401	£1,432,951	£202,206	£2,882,889
12. DM with CVD not on LLT	£13,584	7	£124,960	£51,167	£214,596	£23,899	£414,621
<b>Total</b>	<b>£2,575,936</b>	<b>942</b>	<b>£13,827,518</b>	<b>£3,978,038</b>	<b>£16,830,769</b>	<b>£3,453,135</b>	<b>£38,089,460</b>

All costs and benefits are discounted

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