

## 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.

<b>Cluster: Shropshire, Telford and Wrekin ICB with Staffordshire and Stoke-on-Trent ICB</b> <b>Year 3 – Step Change Scenario</b>	
<b>Events prevented:</b> <ul style="list-style-type: none"> <li>• 299 Heart attacks</li> <li>• 559 Strokes</li> <li>• 911 Heart failure admissions</li> <li>• 70 End stage kidney disease</li> </ul>	<b>1,839 events*</b> <b>~ 14,051 bed days</b> (excl ESKD) <small>*Total events may not match due to rounding</small>
<b>Health/social care savings</b>	<b>£34.5 million</b>
<b>Productivity gains</b>	<b>£39.2 million</b>
<b>Benefit to cost ratio</b>	<b>15.4</b> <small>(Over £15 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:

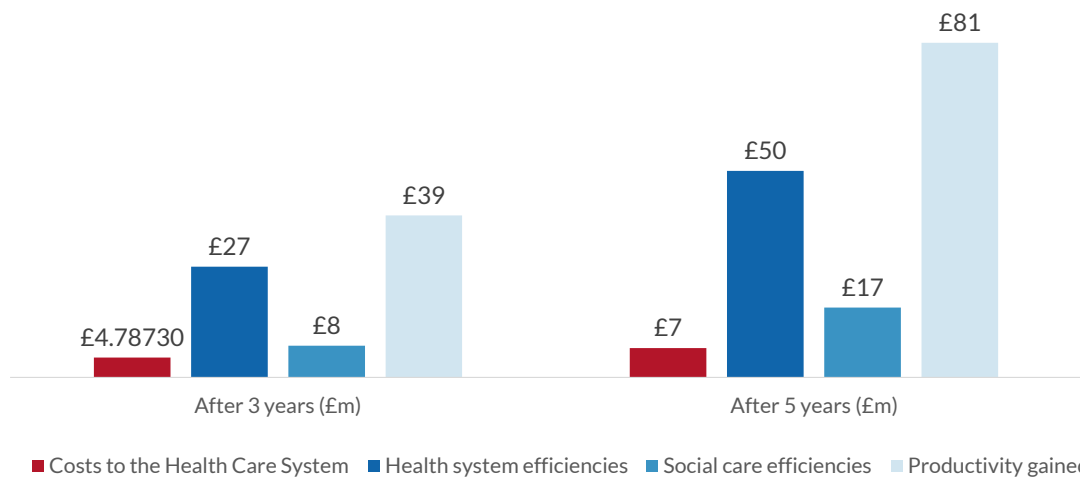
1. **Smart data** - routinely detect patients who are not on optimal treatment, and prioritise for optimisation
2. **Structured support for transformation** enabling teams to adapt workforce and pathways to optimise at scale and within capacity
3. **Partnership with primary care for step change** – supporting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

<b>Location</b>	Cluster - Shropshire, Telford and Wrekin ICB with Staffordshire and Stoke-on-Trent ICB
<b>CVD ACTION optimisation cohort</b>	All
<b>Number of patients optimised in year 1</b>	71,354

	After 3 years	After 5 years
<b>Events Prevented</b>		
Myocardial infarctions	299	486
Strokes (ischaemic)	559	903
Heart failure admissions	911	1,447
End stage kidney disease	70	112
<b>Total</b>	<b>1,839</b>	<b>2,948</b>
<b>Costs to the Health Care System</b>	<b>£4.8m</b>	<b>£7.1m</b>
<b>Benefits</b>		
Health system efficiencies	£26.8m	£50.0m
Social care efficiencies	£7.7m	£16.9m
Productivity gained	£39.2m	£81.0m
<b>Total</b>	<b>£73.7m</b>	<b>£147.9m</b>
<b>Total Benefits to Costs Ratio (Gross)</b>	<b>15.4</b>	<b>20.8</b>



All costs and benefits are discounted

# CVDAction: Costs and Benefits by Year

**Location:**

Cluster - Shropshire, Telford and Wrekin ICB with Staffordshire and Stoke-on-Trent 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
<b>Number avoided with CVDAction</b>							
Myocardial Infarctions	101	201	299	394	486	924	1,299
Strokes	192	378	559	732	903	1,680	2,353
Heart failure admissions	318	623	911	1,185	1,447	2,608	3,539
End stage kidney disease	24	48	70	92	112	204	278
<b>Costs of CVDAction and treatment (discounted)</b>							
CVDAction	£348,961	£348,961	£348,961	£348,961	£348,961	£348,961	£348,961
Transformation cost	£436,201	£436,201	£436,201	£436,201	£436,201	£436,201	£436,201
Treatment	£1,435,370	£2,751,737	£4,002,134	£5,190,376	£6,319,977	£11,197,297	£15,026,724
<b>Total</b>	<b>£2,220,533</b>	<b>£3,536,899</b>	<b>£4,787,296</b>	<b>£5,975,538</b>	<b>£7,105,139</b>	<b>£11,982,460</b>	<b>£15,811,886</b>
<b>Value by economic category (discounted)</b>							
Health costs avoided	£7,389,837	£16,453,951	£26,802,518	£38,032,701	£49,968,621	£114,063,776	£175,844,036
Social care costs avoided	£1,521,846	£4,136,779	£7,674,141	£11,970,503	£16,910,173	£47,524,776	£81,539,356
Informal care costs avoided	£8,189,691	£19,160,818	£32,468,110	£47,604,250	£64,360,562	£161,852,865	£265,308,309
Lost productivity avoided	£796,943	£3,137,185	£6,727,590	£11,295,888	£16,627,821	£49,721,571	£85,369,229
<b>Total</b>	<b>£17,898,317</b>	<b>£42,888,732</b>	<b>£73,672,359</b>	<b>£108,903,342</b>	<b>£147,867,177</b>	<b>£373,162,988</b>	<b>£608,060,930</b>
<b>Value by clinical event (discounted)</b>							
Myocardial Infarctions	£1,517,087	£3,425,790	£5,637,043	£8,095,969	£10,724,828	£25,418,069	£40,028,825
Strokes	£14,360,172	£33,138,520	£55,624,306	£80,983,055	£108,910,119	£269,903,783	£439,528,195
Heart failure admissions	£983,698	£3,193,733	£6,336,595	£10,168,474	£14,521,415	£39,926,128	£65,668,462
End stage kidney disease	£1,037,361	£3,130,689	£6,074,415	£9,655,845	£13,710,815	£37,915,009	£62,835,448
<b>Total</b>	<b>£17,898,317</b>	<b>£42,888,732</b>	<b>£73,672,359</b>	<b>£108,903,342</b>	<b>£147,867,177</b>	<b>£373,162,988</b>	<b>£608,060,930</b>
<b>Benefit to cost ratio (Gross)</b>							
Health costs avoided	3.3	4.7	5.6	6.4	7.0	9.5	11.1
Social care costs avoided	0.7	1.2	1.6	2.0	2.4	4.0	5.2
Informal care costs avoided	3.7	5.4	6.8	8.0	9.1	13.5	16.8
Lost productivity avoided	0.4	0.9	1.4	1.9	2.3	4.1	5.4
<b>Total</b>	<b>8.1</b>	<b>12.1</b>	<b>15.4</b>	<b>18.2</b>	<b>20.8</b>	<b>31.1</b>	<b>38.5</b>

\*Numbers less than 10 suppressed

## CVD ACTION Optimisation Cohorts Analysis After 3 Years

**Location** Cluster - Shropshire, Telford and Wrekin ICB with  
Staffordshire and Stoke-on-Trent ICB

### 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	£877,168	713	£10,764,346	£4,123,067	£17,471,873	£2,427,031	£34,786,317
Cholesterol							
2. CVD not on Lipid Lowering Therapy (LLT)	£157,942	58	£1,108,857	£471,070	£1,996,175	£212,960	£3,789,062
3. CVD on suboptimal dose or intensity of statin	£404,982	92	£1,452,484	£435,605	£1,839,602	£310,625	£4,038,316
4. CVD on max statin but not treated to target	£874,690	38	£724,686	£232,372	£991,494	£137,593	£2,086,144
Chronic Kidney Disease							
5. RAA indicated but not prescribed	£39,759	44	£892,054	£151,581	£651,984	£256,928	£1,952,547
6. SGLT2i indicated but not prescribed	£577,954	207	£1,755,005	£0	£0	£635,025	£2,390,030
7. CVD and Statin not prescribed	£42,987	28	£582,096	£251,435	£1,075,614	£104,198	£2,013,344
8. BP not treated to target	£48,823	75	£1,160,500	£450,986	£1,902,780	£263,108	£3,777,374
Diabetes							
9. RAA indicated but not prescribed	£312,727	230	£4,268,129	£783,308	£3,295,509	£1,235,009	£9,581,954
10. SGLT2i indicated but not prescribed	£1,312,977	233	£2,065,815	£0	£0	£699,746	£2,765,561
11. DM and HTN with BP not treated to target	£111,750	110	£1,788,346	£676,363	£2,830,581	£399,429	£5,694,719
12. DM with CVD not on LLT	£25,537	13	£240,200	£98,354	£412,498	£45,938	£796,989
<b>Total</b>	<b>£4,787,296</b>	<b>1,839</b>	<b>£26,802,518</b>	<b>£7,674,141</b>	<b>£32,468,110</b>	<b>£6,727,590</b>	<b>£73,672,359</b>

All costs and benefits are discounted

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