

# Prevention and Demand Analysis – Hypertension Well Management

A figure included in the 10 Year Health Plan (Reference 167), estimated that increasing the proportion of people in England with hypertension who are managed well (meeting National Institute of Clinical care and excellence (NICE) guidelines) from 70% to 80% in 3 years may result in up to 2.2 million fewer healthcare episodes over a 10-year period.

There are three parts to the analysis, outlined below:

Firstly, the **estimation of number of CVD events avoided from improvement in hypertension management** was calculated using University of Sheffield's CVD Prevention Return on Investment Tool<sup>1</sup>. This tool allows the comparison of an intervention scenario (in this case 80% with hypertension well managed) to a baseline scenario (70% well managed). The number of events prevented is estimated per year and summed over 10 years in table 1.

**Table 1- Change in number of CVD events occurring over 10 years from the proportion of people in England with hypertension who are well managed increasing from 70% to 80% in 3 years, rounded to nearest hundred**

	Angina Stable	Angina Unstable	Heart Failure	Myocardial Infarction	Renal Failure	Stroke	Diabetes (Type 2)	Transient Ischemic Attack
Change in number of events	-10,200	-2,700	7,500	-9,700	100	-9,900	-800	-2,500

<sup>1</sup> [CVD Tool](#)

Secondly, the **number of additional events, through any specialty or pathway, associated with each CVD event was estimated** from NICE longitudinal analysis of linked Clinical Practice Research Datalink (CPRD, an extract of primary care data) and Hospital Episode Statistics (HES) data between 2000 and 2020. Analysis estimated number of interactions in each setting from 5 years before a CVD event to 10 years after. The number of interactions was measured as number of consultations in primary care and number attendances or appointments in A&E, Inpatient, Critical Care, Outpatient and Diagnostics settings within secondary care. The additional number attributed to each CVD event were the number of interactions in years -1 to 10 compared to the average interactions in years -2 to -5<sup>2</sup>. No adjustment was made in this analysis for age or differing mortality rates between those who experience an CVD event and those who do not. The number of interactions is estimated per year and the cumulative impact over 10 years is presented in table 2.

**Table 2 - Additional patient interactions through any specialty or pathway in primary and secondary care over ten years after each CVD event, analysis of CPRD and HES linked data<sup>2</sup>, rounded to nearest 5 interactions**

NHS Setting	Angina Stable	Angina Unstable	Heart Failure	Myocardial Infarction	Renal Failure	Stroke	Diabetes (Type 2)	Transient Ischemic Attack
Primary Care	40	45	55	30	40	40	55	45
Secondary Care	35	35	50	30	205	30	20	30

Finally, **NHS demand avoided was calculated as events avoided multiplied by the additional interactions expected following each event.** Both the number of CVD events avoided and the additional number of interactions are estimated annually, with the proportionate impact being calculated to estimate the 10-year impact on NHS demand. This results in the estimate of 2.2 million healthcare episodes being avoided over the 10 years in relation to improvements in hypertension management. Of these, 1.1million interactions were in primary care settings and 1.0 million were in secondary care<sup>3</sup>.

\*Analysis of CVD interactions in each NHS setting was undertaken on CPRD and HES linked data between 2000 and 2020 with interactions before and after each CVD event captured over a 15 year period.

<sup>2</sup> Analysis of CVD interactions in each NHS setting was undertaken on CPRD and HES linked data between 2000 and 2020 with interactions before and after each CVD event captured over a 15 year period.

<sup>3</sup> Figures do not sum to 2.2 million due to rounding