

# Healthcare resource use in uncontrolled hypertension: An observational study in England using electronic health records

EPH122

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## INTRODUCTION

Uncontrolled hypertension (uHTN) is a condition when blood pressure (BP) consistently stays above target despite taking antihypertensive treatments.

Persistent elevation of BP is associated with increased healthcare resource use and overall healthcare costs.

## OBJECTIVE

 This research aims to quantify healthcare resource utilisation (HCRU) among patients with uHTN in England.

## METHODS

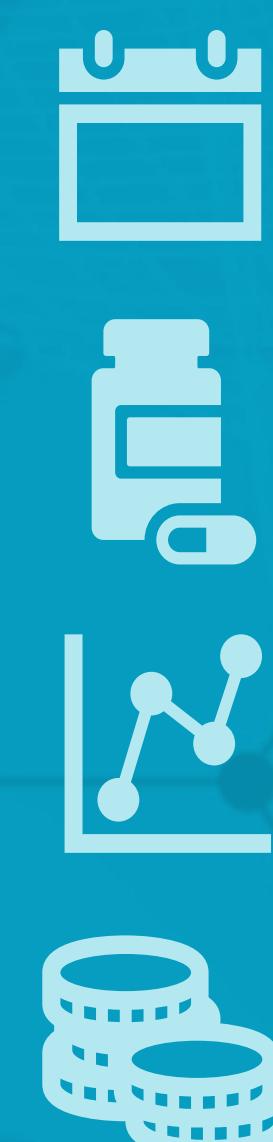
- A retrospective observational study using anonymised, linked data from:

Primary care  CPRD

(Clinical Practice Research Datalink [Aurum])

Secondary care  NHS

England Hospital Episode Statistics



- Included individuals newly diagnosed with hypertension from either primary or secondary care, between January 2018 and December 2023
- uHTN was defined as a first BP (index date) above 140/90 mmHg while receiving at least two antihypertensive medications concurrently for  $\geq 30$  days ("treated")
- HCRU was assessed based on healthcare contacts from index date to end of follow-up
- Healthcare costs were calculated using Healthcare Resource Groups (HRGs) National Costs Grouper and NHS tariff for general practitioner (GP) prescriptions, reported as *per person per year (PPPY)*

## RESULTS

### Study population

- 130,105 treated patients  89,291 (68.6%) had uHTN at index

### Patient characteristics

- Mean age:  61.9 years (SD: 13.4)  54.8% vs 45.2%
- Mean body mass index: 30.9 kg/m<sup>2</sup>
- 59.9% current or former smokers
- Systolic BP and diastolic BP averaged 149.1 (SD: 13.6) and 86.9 (SD: 11.2), respectively

Comorbidities, n (%)	
Heart failure	5,630 (6.3)
CKD stage 3-5	8,122 (9.1)
Coronary artery disease/Ischaemic heart disease	11,315 (12.7)
Atrial fibrillation	7,602 (8.5)
Type 2 diabetes	15,227 (17.1)
Dyslipidaemia	17,244 (19.3)
COVID-19	10,844 (12.1)
Mood disorders (depression and bipolar)	19,742 (22.1)
Anxiety/Stress	17,116 (19.2)
Rheumatic disease	29,692 (33.3)

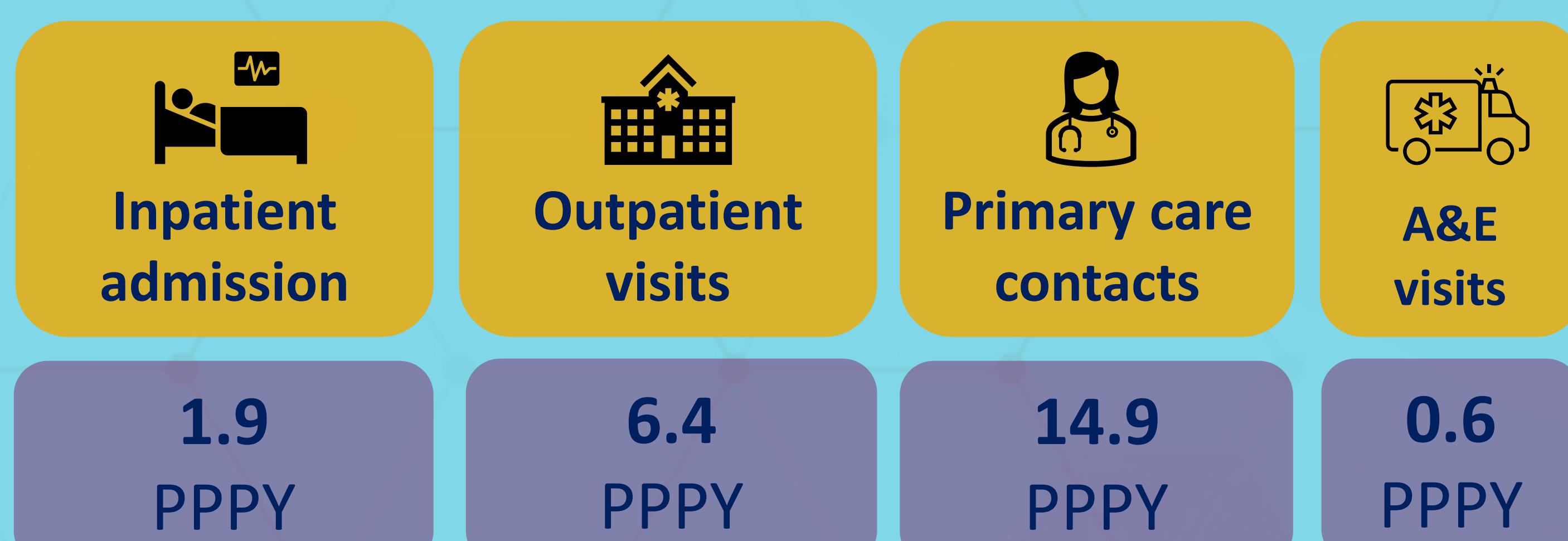
Antihypertensive medications, n (%)	
Number of drug classes	
None	NA
1	NA
2	57,699 (64.6)
3	24,280 (27.2)
$\geq 4$	7,312 (8.2)
Drug classes at index	
ACEi	60,224 (67.5)
ARBs	15,829 (17.7)
Beta blockers	22,449 (25.1)
Calcium channel blockers	63,251 (70.8)
Diuretics	16,534 (18.5)
MRA	1,575 (1.8)
Concomitant treatments <sup>1</sup> , n (%)	
SGLT2i	2,289 (2.6)
Statins	38,318 (42.9)
Aspirin	11,403 (12.8)

<sup>1</sup> At study index

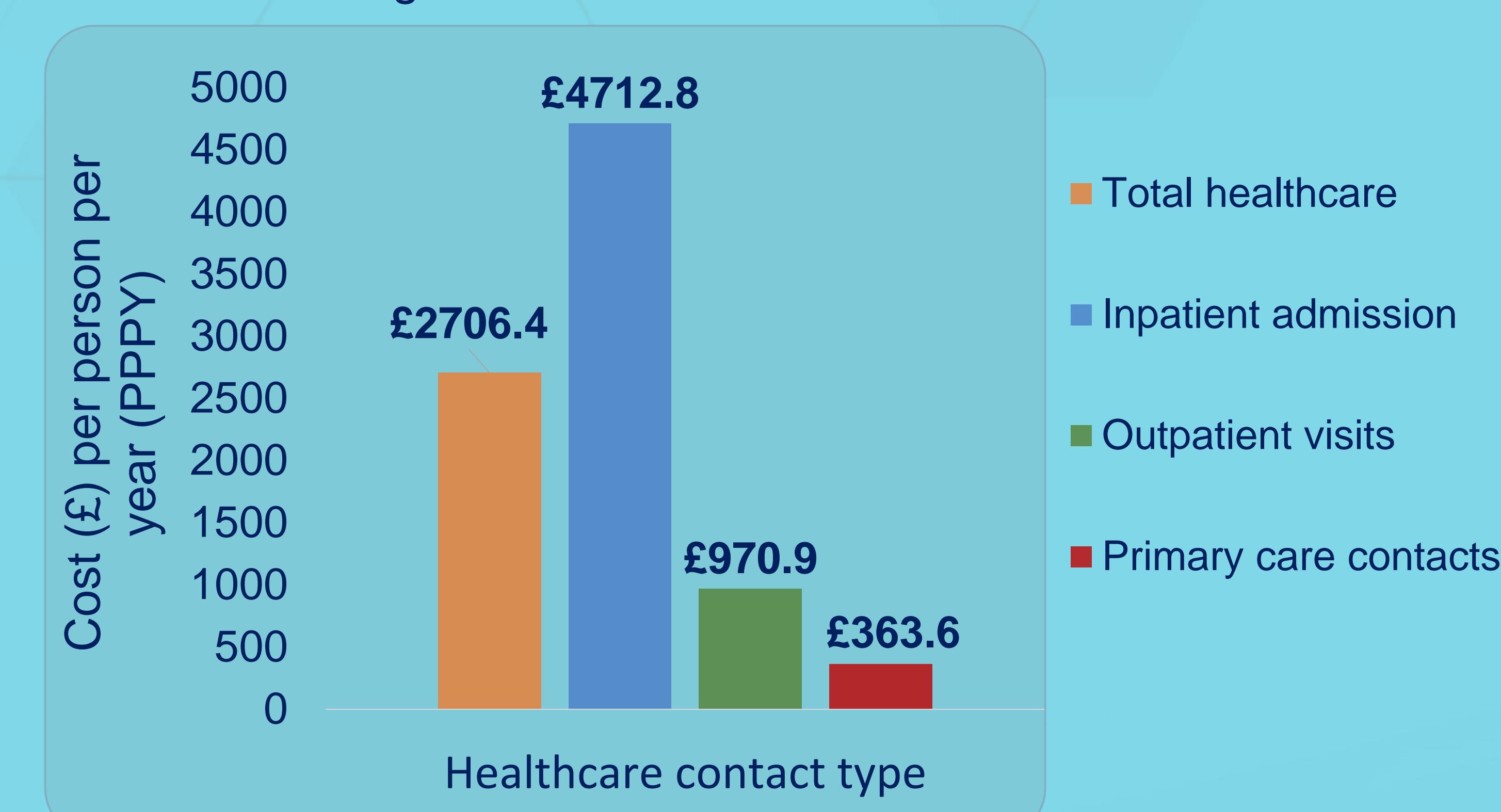
ACEi, angiotensin-converting enzyme inhibitor; ARBs, angiotensin II receptor blockers; CKD, chronic kidney disease; MRA, mineralocorticoid receptor antagonists; SGLT2i, sodium-glucose cotransporter 2 inhibitor

### Healthcare contacts & costs

- During follow-up, 34.9% of patients had at least one hospital admission (mean 1.9 PPPY), with an average length of stay of 5.7 days PPPY
- Average number of patient healthcare contacts PPPY:



- Total and categorised healthcare costs<sup>2</sup>:



<sup>2</sup> For patients with non-zero costs for each specific component. Total healthcare cost is averaged across all patients with any healthcare cost.

## CONCLUSIONS

- Uncontrolled hypertension remains common among treated patients and is linked to high healthcare resource utilisation and costs, largely due to hospital admissions
- These results underscore the need for improved blood pressure management to reduce both clinical and economic burdens

## Funding & acknowledgements

This UK study is based in part on data from the CPRD obtained under license from the UK Medicines and Healthcare products Regulatory Agency (MHRA) and approved by the Research Data Governance (#24\_004211).

The study is funded by AstraZeneca. TM serves as advisor and/or investigator for Alnylam, AstraZeneca and Medtronic. KL, HG and JBM are full-time employees and stockholders of AstraZeneca.