## Supplemental table S1. List of abbreviations

Full name	Abbreviation
ACE inhibitors	ACEIs
Analysis of variance	ANOVA
Anatomical therapeutical chemical code	ATC code
Angiotensin II receptor blockers	ARBs
Beta-blockers	BBs
Calcium channel blockers	CCBs
Cardiac drug therapy	CDT
Cardiovascular	CV
Cardiovascular disease	CVD
Chronic obstructive pulmonary disease	COPD
Confidence interval	CI
European Society of Cardiology	ESC
Hazard ratio	HR
Inverse probability weighting	IPW
Number needed to treat	NNT
Person-years	ру
Relative risk	RR
Rheumatoid arthritis	RA
Standard deviations	SD
World Health Organization	WHO

## Supplemental table S2. ATC codes used in our study

All mentioned diseases and medications	ATC code
Anti-hypertensive drug monotherapies	
ACEIs	C09A
ARBs	C09C
BBs	C07A
CCBs	C08C, C08D, C08E
Thiazides	C03AA
Anti-hyperlipidemic drug monotherapies	
HMG CoA reductase inhibitors	C10AA
Fibrates	C10AB
Bile acid sequestrants	C10AC
Nicotinic acid and derivatives	C10AD
Other lipid modifying agents	C10AX
Antihypertensive drug fixed-dose combinations	
Thiazides and potassium in combination	C03AB
Thiazides, combinations with psycholeptics and/or analgesics	C03AH
Thiazides, combinations with other drugs	C03AX
Calcium channel blockers and diuretics	C08G
Angiotensin converting enzyme inhibitors and combinations	C09B
Angiotensin II receptor blockers and combinations	C09D
Beta blocking agents and thiazides	C07B
Beta blocking agents and other diuretics	C07C
Beta blocking agents, thiazides and other diuretics	C07D
Beta blocking agents and vasodilators	C07E
Beta blocking agents, other combinations	C07F
Anti-hyperlipidemic drug fixed-dose combinations	
HMG CoA reductase inhibitors in combination with other lipid modifying agents	C10BA
HMG CoA reductase inhibitors, other combinations	C10BX
Secondary prevention	
Platelet aggregation inhibitor	B01AC
Vitamin K antagonist	B01AA
Organic nitrate	C01DA
Other vasodilators used in cardiac diseases	C01DX
Chronic, stable heart failure	
High-ceiling diuretics	C03C
Migraine	
Triptan	N02C
Adrenal disease	
Phentolamine	C04AB01
Tolazoline	C04AB02
Anticorticosteroids	H02CA

Mifeprostone	G03XB		
Metyrapone	V04CD		
Hyperparathyroidism			
Calcium, combinations with vitamin D and/or other drugs	A12AX		
Vitamin D and analogues	A11CC		
Thyroid problems			
Thyroid hormones	H03AA		
Diabetes			
Blood glucose lowering drugs	A10		
Rheumatoid arthritis			
Methotrexate	L04AX03		
Sulfasalazine	A07EC01		
Leflunomide	L04AA13		
Etanercept	L04AB01		
Infliximab	L04AB02		
Adalimumab	L04AB04		
Golimumab	L04AB06		
Abatacept	L04AA24		
Anakinra	L04AC03		
Tocilizumab	L04AC07		
Asthma / COPD			
Inhaled steroids	R03BA, R03AK, R03AL		

**Supplemental table S3.** Incidence rate/1000 person-years of acute CDT for anti-hypertensive monotherapies within 5 years, 10 years, 15 years, 20 years and 25 years

Follow-up year	ACEIs	ARBs	BBs	CCBs	Thiazides
5-year					
Cumulative events	641	211	934	266	547
Person years	27317	10356	55898	11067	27679
Incidence rate	23.5	20.4	16.7	24.0	19.8
10-year					
Cumulative events	1059	387	1681	401	1007
Person years	39381	15655	87905	14768	42536
Incidence rate	26.9	24.7	19.1	27.2	23.7
15-year					
Cumulative events	1240	450	2079	456	1212
Person years	44284	18023	104502	16244	48669
Incidence rate	28.0	25.0	19.9	28.1	24.9
20-year					
Cumulative events	1298	471	2223	473	1262
Person years	45862	18697	110775	16805	50146
Incidence rate	28.3	25.2	20.1	28.1	25.2
25-year					
Cumulative events	1307	473	2245	480	1265
Person years	46026	18735	111566	16873	50257
Incidence rate	28.4	25.2	20.1	28.4	25.2

Supplemental table S4. Number needed to treat for thiazides monotherapy compared with

BBs monotherapy to prevent acute CDT in all patients and subgroups.

	NNT (95% CI)				
	5-year	10-year	15-year	20-year	25-year
All patients	98 (100 to 100)	47 (33 to 100)	33 (25 to 50)	28 (17 to 100)	26 (- Inf to 12.5)
Gender					
Male	67 (50 to 100)	32 (20 to 50)	23 (14 to 50)	20 (11 to 100)	20 (10 to Inf)
Female	139 (100 to Inf)	67 (33 to Inf)	46 (25 to Inf)	38 (20 to Inf)	34 (-50 to 12.5)
Age(years)					
18-39	379 (-Inf to 100)	146 (-Inf to 50)	83 (-100 to 33)	56 (-50 to 20)	47 (-25 to 12.5)
40-69	97 (50 to 100)	46 (33 to 100)	31 (20 to 50)	25 (14 to 100)	23 (-100 to 11)
$\geq 70$	45 (25 to 100)	24 (12.5 to Inf)	21 (-50 to 8)	20 (-17 to 6)	20 (-11 to 5)
Drugs for diabetes					
Yes	14 (10 to 25)	9 (6 to 17)	7 (5 to 14)	7 (4 to 17)	5 (-8 to 2)
No	122 (100 to Inf)	57 (33 to 100)	40 (25 to 100)	34 (20 to 100)	32 (-100 to 14)
Drugs for					
rheumatoid arthritis					
Yes	13 (8 to 50)	7 (4 to 33)	5 (3 to 100)	4 (-3 to 1)	4 (-3 to 1)
No	102 (100 to 100)	49 (33 to 100)	35 (25 to 100)	29 (17 to 100)	27 (-Inf to 12.5)
Drugs for					
asthma/COPD					
Yes	89 (-100 to 33)	47 (-50 to 17)	35 (-33 to 11)	30 (-17 to 8)	30 (-17 to 8)
No	98 (100 to 100)	47 (33 to 100)	33 (20 to 50)	28 (17 to 100)	26 (- Inf to 12.5)
Calendar years					
1996-2000	151 (-100 to 50)	75 (-50 to 20)	56 (-33 to 14)	50 (-25 to 12.5)	48 (-20 to 11)
2000-2010	70 (50 to 100)	36 (25 to 50)	27 (17 to 50)	23 (14 to 50)	23 (14 to 100)
2010-2020	220 (-Inf to 100)	107 (-100 to 50)	94 (-50 to 25)	94 (-50 to 25)	94 (-50 to 25)

Supplemental figures legend

Supplemental figure 1. Incidence rate/1000 person-years of acute CDT for anti-hypertensive monotherapies of 25 years

**Supplemental figure 2.** Forest plot of subgroup hazard ratios between thiazides and BBs after IPW

**Supplemental figure 3.** NNT (number needed to treat) for thiazides compared with BBs during 25 years in subgroups



Li X, et al. BMJ Open 2024; 13:e068721. doi: 10.1136/bmjopen-2022-068721

Subgroup			I	Hazard Ratio (95% CI)
All patients		•		0.88 (0.82, 0.96)
Gender				
Male		<b>⊢_</b> →		0.86 (0.76, 0.97)
Female		<b>⊢∎</b> -4		0.91 (0.82, 1.00)
Age(years)				
18-39		· •		0.89 (0.56, 1.42)
40-69		<b>⊢</b> ∎-1		0.87 (0.79, 0.96)
≥70		∎1		0.88 (0.77, 1.00)
Drugs for diabetes				
Yes	H			0.58 (0.34, 0.96)
No		<b>⊢⊒</b> -4		0.90 (0.84, 0.98)
Drugs for rheumatoid arthrit	is			
Yes	<b></b>	•	<b></b>	0.42 (0.15, 1.16)
No		H <b></b> -1		0.89 (0.82, 0.96)
Drugs for asthma/COPD				
Yes		▶		0.90 (0.68, 1.18)
No		<b>⊢</b> ∎-1		0.88 (0.81, 0.96)
Calendar-year periods				
1996-2000		F		0.95 (0.77, 1.17)
2000-2010		<b>⊢</b> ∎-1		0.86 (0.78, 0.95)
2010-2020			-1	0.93 (0.79, 1.10)
	0 Thiazides better	0.5 1	1.5 BBs bett	er

