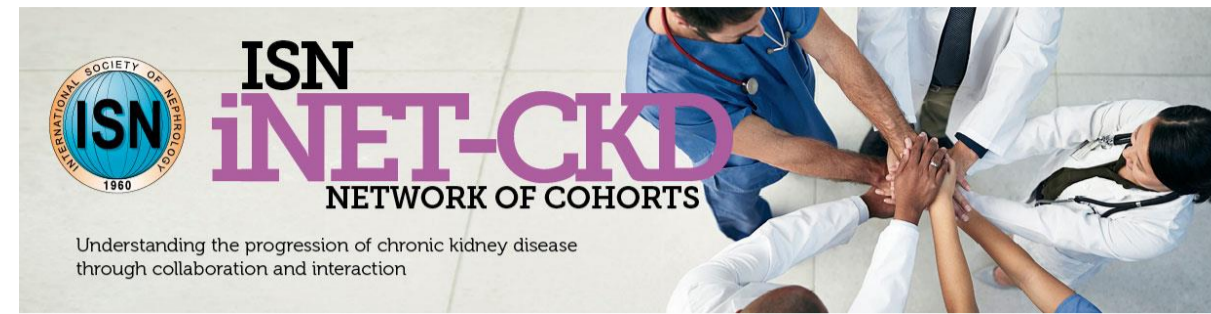


Global variation in blood pressure control and anti-hypertensive therapy in CKD patients with hypertension



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Background

Rates of blood pressure (BP) control in patients with CKD vary considerably worldwide. How differences in patient characteristics and antiHT regimens relate to patterns of BP control is uncertain.

Methods

ISN iNET-CKD (International Network of Chronic Kidney Disease cohort studies) is an open, international network of existing and independently funded CKD cohort studies. We used data from 14 studies (16 countries), including 34,901 patients with eGFR <60 ml/min/1.73m² and hypertension (defined as either BP ≥140/90 mmHg or antiHT drug use). We estimated adjusted observed to expected prevalence ratios (PR) of uncontrolled BP (≥140/90) using mixed logistic regression models. We also described the frequency of anti-hypertensive treatments by world region and study.

Results

Table 1: Patients' characteristics and type of anti-hypertensive drug classes prescribed.

	CKD-JAC	C-STRIDE	ICKD	KNOW-CKD	CKD-QLD	CKDREIN	CKDopps DE	GCKD	PROVALID	PSI BIND-NL	RRID	CanPREDDICT	CKDopps US	CRIC	CKDopps BR	NRHP-Uruguay
Age ≥ 65 (%)	44.1	18.5	9.5	26.5	71.4	67.1	79.2	53.4	68.9	42.6	89.6	67.6	66.6	35.1	53.4	76.4
Female (%)	35.3	39.2	31.2	36.7	48.2	33.5	42.3	37.2	57.8	32.5	53.1	37.6	46.7	45.0	48.9	42.2
Diabetes (%)	44.7	29.7	30.9	33.0	53.6	44.2	43.1	38.9	100	19.8	21.7	49.2	60.9	53.4	50.1	38.0
eGFR < 30 (%)	56.6	44.0	12.0	43.3	38.1	47.1	70.3	11.6	12.8	46.3	3.0	61.1	68.5	22.6	68.6	29.5
AntiHT drug classes																
Diuretics	31.9	11.2	NA	40.4	45.6	55.8	75.9	66.5	68.9	50.2	50.0	73.4	61.2	67.2	74.2	45.3
RAAS inhibitors	87.2	63.1	NA	89.9	69.1	79.1	78.4	84.4	82.8	73.0	76.0	74.9	54.1	75.1	64.5	70.0
Ca-channel blockers	60.3	75.0	NA	50.7	47.5	51.8	51.1	44.2	39.4	27.6	33.2	57.5	49.5	47.5	35.9	25.8
Beta blockers	21.7	37.5	NA	30.4	48.1	44.2	68.4	60.6	63.5	42.8	25.4	47.4	60.4	55.8	45.4	26.9
Other	3.1	10.1	NA	10.7	18.9	13.9	11.4	2.8	27.2	4.4	11.1	24.2	36.3	10.4	12.8	2.1

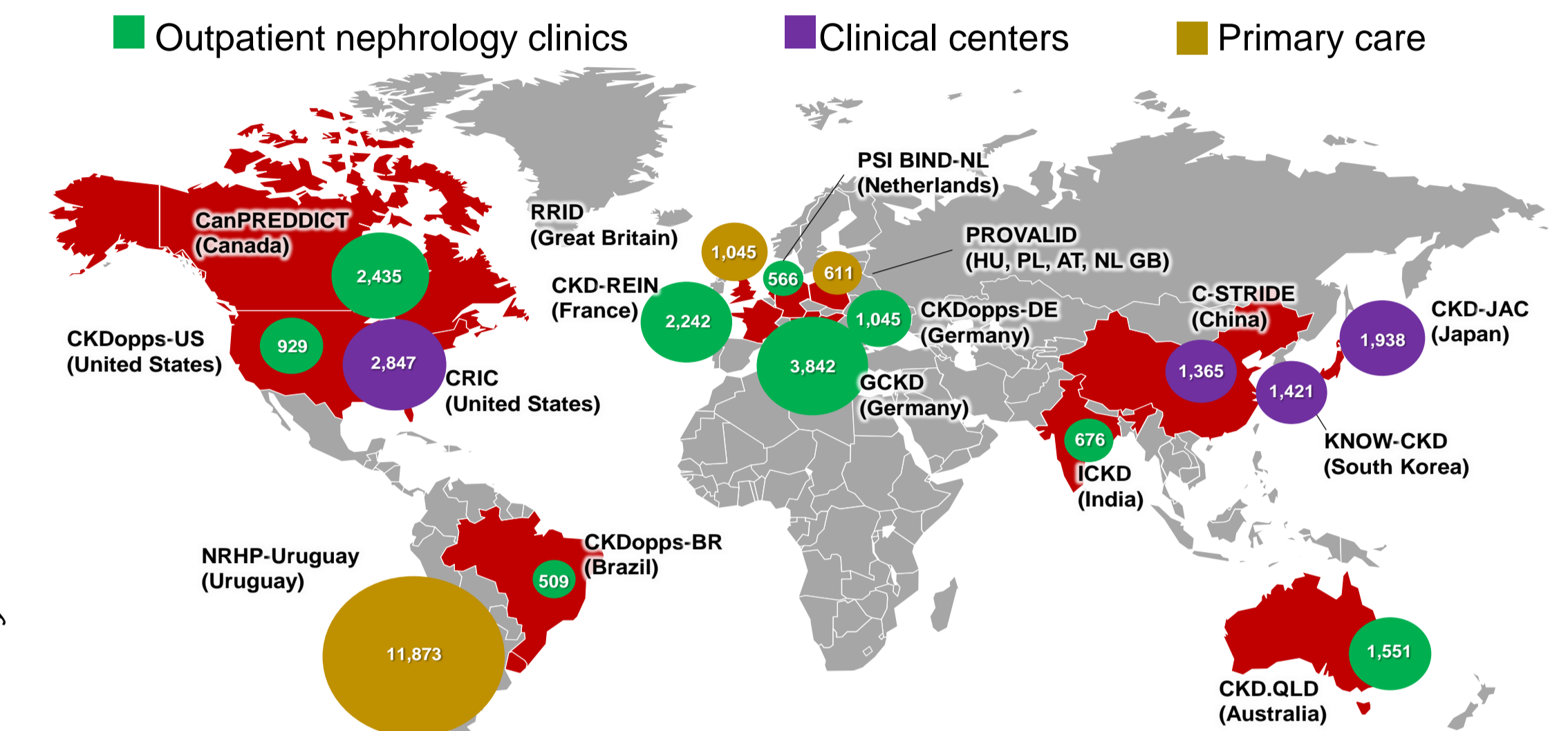


Fig 1: Participant cohort studies. Circles' diameter indicate sample size in this analysis, color indicate the type of recruitment setting.

Fig 2: Adjusted observed to expected prevalence ratios of uncontrolled BP

Model 1: adjusted for age, gender, diabetes, and eGFR.

Model 2: further adjusted for education, CV disease, obesity, smoking, and albuminuria.

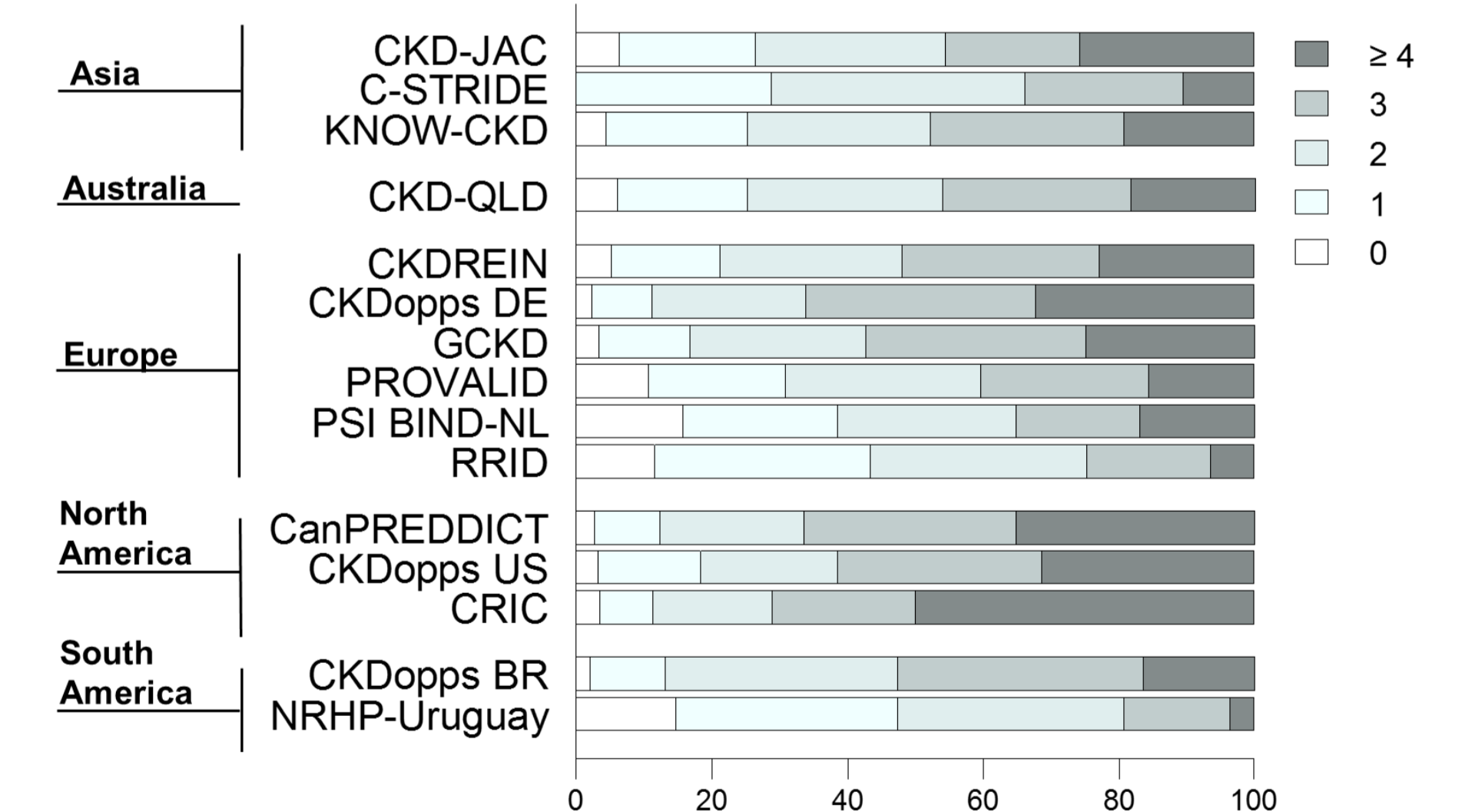
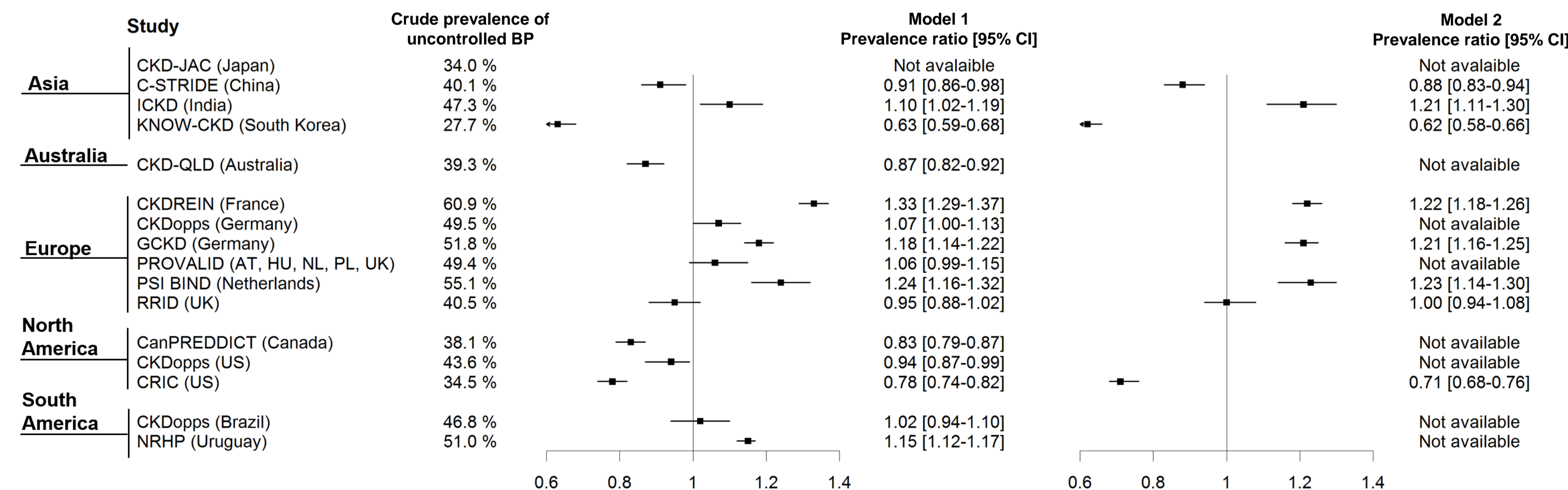


Fig 2: Number of antiHT drug classes prescribed among patients with uncontrolled BP.

Conclusion

Global variation in BP control is only partly explained by patient characteristics. Heterogeneity of antiHT treatment practices may also play a role and would be potentially modifiable.

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