

Supplementary Material to: Koh JJE, Tan YZ, Oh HC, et al. Factors associated with persistent high healthcare service utilisers in eastern Singapore in 2020–2022: A population health analysis. *Ann Acad Med Singap* 2025;54. DOI: <https://doi.org/10.47102/annals-acadmedsg.202543>

Table S4. Fully adjusted logistic regression models with 95% CI (A) for diseases, (B) inpatient discharge penalty and (C) outpatient penalty.

(A) Diseases

Variables	Categories	OR (95% CI)
Has diabetes (ref No)	Yes	1.47 (1.33–1.62) ^a
Has hypertension (ref No)	Yes	1.28 (1.17–1.41) ^a
Has dyslipidaemia (ref No)	Yes	0.939 (0.85–1.04)
Has stroke (ref No)	Yes	1.1 (0.973–1.24)
Has atrial fibrillation (ref No)	Yes	1.88 (1.7–2.09) ^a
Has asthma (ref No)	Yes	2.41 (2.02–2.88) ^a
Has chronic obstructive pulmonary disease (ref No)	Yes	2.69 (2.29–3.17) ^a
Has myocardial infarction (ref No)	Yes	0.986 (0.879–1.11)
Has ischaemic heart disease (ref No)	Yes	1.81 (1.67–1.97) ^a
Has heart failure (ref No)	Yes	1.67 (1.5–1.86) ^a
Has renal issues (ref No)	Yes	2.4 (2.22–2.6) ^a
Has osteoporosis (ref No)	Yes	2.64 (2.36–2.94) ^a
Has dementia (ref No)	Yes	1.89 (1.67–2.13) ^a
Has mental health issues (ref No)	Yes	3.48 (2.97–4.08) ^a
Age (ref 40 and below)	41–50	1.73 (1.44–2.08) ^a
	51–60	2.4 (2.05–2.81) ^a
	61–70	2.33 (2–2.72) ^a
	71–80	2.5 (2.13–2.93) ^a
	Above 80 years	1.83 (1.54–2.17) ^a
Sex (ref female)	Male	1.1 (1.03–1.18) ^a
Race (ref Chinese)	Indian	1.34 (1.2–1.51) ^a
	Malay	1.16 (1.07–1.27) ^a
	Others	1.37 (1.23–1.53) ^a
Housing type (ref 1–3 rooms)	4 rooms	0.929 (0.859–1.01)
	5 rooms or executive	0.948 (0.869–1.04)
	Private	0.868 (0.782–0.965) ^a

(B) Inpatient discharge specialty.

Variables	Categories	OR (95% CI)
Had a cardiovascular medicine/cardiology admission	Yes	4.45 (4.08–4.84) ^a
Had a dermatology admission	Yes	4.17 (2.31–7.53) ^a
Had an endocrinology admission	Yes	3.25 (2.53–4.17) ^a
Had an otolaryngology admission	Yes	3.59 (2.87–4.49) ^a
Had an ophthalmology admission	Yes	3.77 (2.57–5.52) ^a
Had a gastroenterology admission	Yes	3.92 (3.49–4.41) ^a
Had a general/geriatric medicine admission	Yes	4.9 (4.55–5.28) ^a
Had an infectious disease admission	Yes	2.93 (2.5–3.43) ^a
Had a neurology admission	Yes	2.81 (2.35–3.35) ^a
Had a neurosurgery admission	Yes	2.03 (1.4–2.95) ^a
Had an oral and maxillofacial surgery admission	Yes	2.62 (0.821–8.38)
Had an orthopaedic surgery admission	Yes	3.31 (3.01–3.63) ^a
Had a psychological medicine admission	Yes	11 (7.86–15.3) ^a
Had a renal medicine/nephrology admission	Yes	14.1 (12.2–16.2) ^a
Had a respiratory medicine admission	Yes	4.1 (3.64–4.63) ^a
Had a rehabilitation medicine admission	Yes	3.07 (2.66–3.53) ^a
Had a sleep medicine surgery science admission	Yes	3.24 (2.58–4.07) ^a
Had a general surgery admission	Yes	4.61 (4.26–5) ^a
Had a urology admission	Yes	3.58 (3.04–4.23) ^a
Age (ref 40 and below)	41–50	1.83 (1.51–2.22) ^a
	51–60	2.84 (2.41–3.34) ^a
	61–70	3.2 (2.73–3.74) ^a
	71–80	4.2 (3.58–4.92) ^a
	Above 80 years	4.08 (3.45–4.82) ^a
Sex (ref female)	Male	1.01 (0.938–1.08)
Race (ref Chinese)	Indian	1.25 (1.11–1.42) ^a
	Malay	1.11 (1.01–1.21) ^a
	Others	1.24 (1.11–1.4) ^a
Housing type (ref 1–3 rooms)	4 rooms	0.976 (0.898–1.06)
	5 rooms or executive	1.05 (0.954–1.15)
	Private	0.941 (0.843–1.05)

(C) Outpatient specialty.

Variables	Categories	OR (95% CI)
Ever visited allied health services	No	2.3 (2.14–2.47) ^a
Ever visited medical discipline services	No	23.2 (20–27) ^a
Ever visited nursing related clinic services	No	1.82 (1.6–2.07) ^a
Ever visited surgical discipline services	No	5.55 (4.92–6.26) ^a
Ever visited other services	No	4.34 (4.07–4.62) ^a
Age (ref 40 and below)	41–50	2.23 (1.9–2.63) ^a
	51–60	3.36 (2.92–3.86) ^a
	61–70	3.71 (3.24–4.25) ^a
	71–80	5.21 (4.54–5.98) ^a
	Above 80 years	6.65 (5.75–7.7) ^a
Sex (ref female)	Male	1.29 (1.22–1.37) ^a
Race (ref Chinese)	Indian	1.44 (1.29–1.6) ^a
	Malay	1.53 (1.42–1.66) ^a
	Others	1.66 (1.5–1.83) ^a
Housing type (ref 1–3 rooms)	4 rooms	0.849 (0.789–0.915) ^a
	5 rooms or executive	0.788 (0.727–0.855) ^a
	Private	0.665 (0.605–0.732) ^a

CI: confidence interval; OR: odds ratio

^aRepresents statistical significance at 5% level.