Supplementary Table 9. Sensitivity analysis of temporal trends in secondary prevention indicator attainment: comparison of primary analysis, continuously contributing centers, and registry-confirmed recurrent ischemic stroke cohorts, Korean Stroke Registry 2018–2023

Outcome	Primary OR/year (95% CI)	Continuous center OR/year (95% CI)	Registry-confirmed OR/year (95% CI)	n, centers
HbA1c <7.0% at admission (diabetes mellitus only)	0.99 (0.97–1.02)	0.99 (0.96–1.03)	0.97 (0.93–1.02)	Primary: n=10,987, 81 centers Continuous center: n=8,497, 38 centers Registry-confirmed: n=2,859, 68 centers
LDL-C <70 mg/dL	1.08 (1.06–1.11)	1.09 (1.06–1.11)	1.10 (1.05–1.14)	Primary: n=24,183, 81 centers Continuous center: n=18,753, 38 centers Registry-confirmed: n=6,387, 70 centers
Non-current smoking	1.03 (0.99–1.07)	1.03 (0.99–1.07)	1.02 (0.98–1.07)	Primary: n=24,183, 81 centers Continuous center: n=18,753, 38 centers Registry-confirmed: n=6,387, 70 centers
Normal weight (BMI 18.5–24.9 kg/m²)	1.00 (0.98–1.02)	1.00 (0.98–1.02)	1.00 (0.97–1.03)	Primary: n=24,183, 81 centers Continuous center: n=18,753, 38 centers Registry-confirmed: n=6,387, 70 centers
Any antithrombotic therapy	1.05 (1.01–1.09)	1.06 (1.01–1.11)	1.02 (0.96–1.09)	Primary: n=24,183, 81 centers Continuous center: n=18,753, 38 centers Registry-confirmed: n=6,387, 70 centers
Antiplatelet agent	1.00 (0.97–1.03)	1.00 (0.97–1.04)	0.98 (0.95–1.02)	Primary: n=24,183, 81 centers Continuous center: n=18,753, 38 centers Registry-confirmed: n=6,387, 70 centers
Anticoagulant	1.05 (1.03–1.08)	1.06 (1.04–1.09)	1.03 (0.99–1.06)	Primary: n=24,183, 81 centers Continuous center: n=18,753, 38 centers Registry-confirmed: n=6,387, 70 centers

ORs were obtained from population-averaged GEE logistic models with hospitals as clusters (exchangeable working correlation). Calendar year (2018–2023) was modeled as a continuous predictor; ORs represent the change per 1-year increment. Continuously contributing centers were defined as hospitals with at least one recurrent ischemic stroke admission recorded in each study year (2018–2023) within the analytic dataset. Registry-confirmed cases were identified by matching the unique patient identifier suffix (≥2) within the same institution (n=6,387; 70 centers). Center counts were indicator-specific. Normal weight was defined as BMI 18.5–24.9 kg/m² (i.e., neither underweight [BMI <18.5] nor obesity [BMI ≥25.0] per registry definitions). The HbA1c analysis was restricted to prior physician-diagnosed diabetes mellitus or newly identified diabetes at admission (HbA1c ≥6.5%). Antithrombotic therapy use was ascertained by self-report at admission and cross-referenced against the HIRA DUR system at data entry.
OR, odds ratio; CI, confidence interval; HbA1c, glycated hemoglobin; LDL-C, low-density lipoprotein cholesterol; BMI, body mass index; GEE, generalized estimating equation; HIRA, Health Insurance Review and Assessment Service; DUR, Drug Utilization Review.

Supplementary Table 10. Association between the number of secondary prevention indicators met and mild stroke presentation (NIHSS ≤4) at recurrent ischemic stroke admission

Variable	Unadjusted			Multivariable-adjusted*		
	OR	95% CI	*P*	OR	95% CI	*P*
No. of secondary prevention indicators met (per 1 additional indicator, range 0–5)	1.05	1.03–1.08	<0.001	1.18	1.15–1.21	<0.001

Outcome: mild stroke defined as admission NIHSS ≤4 (n=14,035, 58.0%). Five secondary prevention indicators: any antithrombotic therapy use, LDL-C <70 mg/dL, HbA1c <7.0% (among patients with diabetes mellitus, defined as prior physician-diagnosed diabetes mellitus or newly identified diabetes at admission (HbA1c ≥6.5%), non-current smoking, and normal weight (BMI 18.5–24.9 kg/m²). Patients without diabetes mellitus were classified as meeting the glycemic criterion. Because the diabetes definition includes admission HbA1c ≥6.5%, all patients without diabetes had HbA1c <7.0%, and this classification is therefore equivalent to applying the HbA1c <7.0% criterion to the full cohort. For the normal-weight indicator, both underweight (BMI <18.5 kg/m²) and obesity (BMI ≥25.0 kg/m²) were classified as not meeting the criterion, consistent with the primary analysis.
NIHSS, National Institutes of Health Stroke Scale; OR, odds ratio; CI, confidence interval; LDL-C, low-density lipoprotein cholesterol; HbA1c, glycated hemoglobin; BMI, body mass index; TOAST, Trial of Org 10172 in Acute Stroke Treatment.
*Adjusted for age, sex, atrial fibrillation, diabetes mellitus, hypertension, and TOAST etiologic subtype (reference: small-vessel occlusion).

https://doi.org/10.5853/jos.2026.02761