

**Supplementary TABLE 1 Association between GNRI and phosphorus or nPNA**

	<i>Phosphorus (mg/dL)</i>		<i>nPNA (g/kg per day)</i>	
	<b>Coefficient</b>	<b>95%CI</b>	<b>Coefficient</b>	<b>95%CI</b>
<b>GNRI</b>	0.35	0.30 to 0.40	0.02	0.01 to 0.03

GNRI, Geriatric Nutritional Risk Index; nPNA, normalized protein nitrogen appearance.

Coefficients are estimated by linear regression and the values indicate the mean change in phosphorus or nPNA for every 10-point increase in GNRI.

**Supplementary TABLE 2 Hazard ratios for all-cause and cardiovascular mortality by time-averaged exposure categories adjusting for time-varying phosphate binder use**

GNRI	Phosphorus	All-cause mortality		Cardiovascular-mortality	
		HR <sup>1</sup>	95% CI	HR <sup>1</sup>	95% CI
<b>Low-Middle</b>	<i>Low</i>	4.04	2.48 to 6.59	2.79	1.49 to 5.25
	<i>Middle</i>	2.06	1.45 to 2.92	1.69	1.11 to 2.57
	<i>High</i>	2.03	1.31 to 3.17	2.12	1.27 to 3.54
<b>High</b>	<i>Low</i>	1.00	0.24 to 4.17	0.88	0.13 to 5.98
	<i>Middle</i>	1.00	reference	1.00	reference
	<i>High</i>	1.76	1.07 to 2.91	2.12	1.23 to 3.65

GNRI, geriatric nutritional risk index; HR, hazard ratio; CI, confidence interval

Low-Middle GNRI: < highest tertile of GNRI; high GNRI: ≥ highest tertile of GNRI; low phosphorus: < 3.5 mg/dl; middle phosphorus: 3.5 to < 6.0 mg/dl; high phosphorus: ≥ 6.0 mg/dl.

<sup>1</sup>Time-dependent Cox proportional hazards model adjusted for time-varying phosphate binder use in addition to baseline covariates (age, sex, time on dialysis, 11 comorbid conditions listed in Table 1, single-pool Kt/V, oral or intravenous VDRA use, and DOPPS phase)