

**Appendix 1: Association between hospital volume of pulmonary embolism cases and patient outcomes**

Outcome	Hospital volume*; odds ratio (95% confidence interval)				p value
	Very low (< 10 cases/yr)	Low (10-19 cases/yr)	High (20-41 cases/yr)	Very high (≥ 42 cases/yr)	
<b>In-hospital mortality</b>					
Unadjusted	1.00	0.59 (0.40-0.85)	0.78 (0.55-1.10)	0.73 (0.52-1.01)	0.03
Adjusted†	1.00	0.59 (0.41-0.86)	0.77 (0.55-1.07)	0.71 (0.51-0.99)	0.03
<b>30-day mortality</b>					
Unadjusted	1.00	0.68 (0.50-0.94)	0.81 (0.61-1.09)	0.76 (0.58-0.99)	0.10
Adjusted†	1.00	0.67 (0.50-0.90)	0.75 (0.57-0.99)	0.71 (0.54-0.92)	0.049
<b>Hospital discharge‡</b>					
Unadjusted	1.00	0.95 (0.80-1.14)	0.89 (0.75-1.06)	0.89 (0.76-1.06)	0.44
Adjusted†	1.00	0.95 (0.81-1.12)	0.93 (0.81-1.08)	0.96 (0.81-1.12)	0.83

\*Hospitals are divided into 4 groups on the basis of hospital volume, where hospital volume is the annual number of cases of pulmonary embolism treated.

†Models were adjusted for hospital region within Pennsylvania, hospital teaching status, race, insurance status, severity of illness according to the pulmonary embolism severity index (which incorporates age, sex, history of cancer, history of chronic lung disease, history of heart failure, systolic arterial blood pressure < 100 mm Hg, pulse ≥ 110 beats/min, respiratory rate ≥ 30 breaths/min, body temperature < 36°C, arterial oxygen saturation < 90% and altered mental status) and administration of thrombolytic therapy.

‡Odds ratio for hospital discharge on a given calendar day. A lower odds ratio for discharge corresponds to a longer length of stay, whereas a higher odds ratio for discharge corresponds to a shorter length of stay.