

APPENDIX TABLES

Table A1 below shows the correlations between the hospital characteristics we include in our models. Some of the correlations are quite high. Better nurse staffing (or higher ratios of nurses to patients) is highly correlated with better nurse work environments, and the correlations between hospital size (number of beds), teaching status, and technology are also high and positive. Skill mix, however, is only moderately (albeit significantly) correlated with total staffing, the nurse work environment, and teaching status, and all of the correlations are negative. The associations between these factors likely does affect the differences in the estimated effects of skill mix from the bivariate and multivariate models shown in Table 3 of our paper, though the differences are likely also the result of the patient and nurse characteristics that are controlled and of the unmeasured differences across countries that are taken account of using dummy variables.

Table A2 shows the coefficients indicating the relationships of the other nursing characteristics with the different outcomes from two multivariate models (M1 and M2). These two models differ only slightly, by excluding the practice environment in the models for mortality and patient ratings and nurse education in the models for nurse reported outcomes. We excluded them from Table 3 in the paper because we have shown many of them in prior publications, and the focus here is on the effect of skill mix on these outcomes, after these other associations are taken into account. The similarity in the coefficients under the two specifications indicates clearly that the exclusion of the practice environment in some models and nurse education from others had no effect on the estimated size of the skill mix which was of primary interest.

Table A1. Correlations between hospital characteristics, with significance levels shown in parentheses.

	Skill Mix	Number of Beds	Teaching Status	Technology	Work Environment	Total Staffing
Skill Mix	1.0					
Number of Beds	-0.112 (.083)	1.0				
Teaching Status	-0.182 (.004)	0.536 (.000)	1.0			
Technology	-0.071 (.270)	0.508 (.000)	0.532 (.000)	1.0		
Work Environment	-0.168 (.009)	-0.142 (.026)	-0.159 (.013)	-0.090 (.160)	1.0	
Total Staffing	-0.162 (.012)	-0.006 (.927)	-0.412 (.552)	-0.044 (.492)	0.580 (.000)	1.0

Note: Coefficients in bold are significant at $p < .05$

Table A2. Effects of hospital characteristics in models with and without the effects of practice environment (in mortality and patient ratings models) and nurse education (in models involving nurse reports)

		Skill Mix	Total Staffing	Education	Practice Environment	Teaching Status	Bedsizes	Technology
30-Day Inpatient Mortality	M1	0.89	0.87	0.99	x	1.01	0.99	1.18
	M2	0.89	0.88	0.99	0.89	1.01	0.99	1.18
Low Hospital Rating by Patients	M1	0.90	0.96	1.04	x	0.92	1.02	0.76
	M2	0.89	0.97	1.04	0.93	0.92	1.02	0.77
Poor/Fair Unit Quality	M1	0.89	0.79	x	0.57	1.01	0.99	1.10
	M2	0.88	0.79	1.05	0.57	0.99	0.98	1.10
Poor/Failing Safety Grade	M1	0.85	0.76	x	0.51	1.15	0.98	1.08
	M2	0.85	0.75	1.12	0.51	1.11	0.97	1.08
Poor Safety Culture	M1	0.93	0.89	x	0.55	1.00	0.99	1.21
	M2	0.93	0.89	1.03	0.55	0.98	0.98	1.21
Nurse Would Not Recommend Hospital	M1	0.82	0.87	x	0.60	1.04	0.93	0.97
	M2	0.82	0.87	1.02	0.60	1.03	0.93	0.97
Pressure Ulcers	M1	0.85	0.91	x	0.78	1.01	1.01	1.21
	M2	0.84	0.90	1.15	0.77	0.94	1.00	1.22
Falls with Injury	M1	0.80	0.89	x	0.81	1.08	1.01	0.99
	M2	0.81	0.88	1.14	0.80	1.02	1.00	0.98
Urinary Tract Infections	M1	0.88	1.01	x	0.84	1.01	1.02	0.97
	M2	0.88	1.01	1.10	0.84	0.96	1.02	0.97
High Nurse Burnout	M1	0.89	0.83	x	0.71	1.12	1.01	1.10
	M2	0.89	0.83	1.07	0.70	1.08	1.00	1.10
Nurse Job Dissatisfaction	M1	0.91	0.82	x	0.56	0.93	1.01	1.12
	M2	0.91	0.82	1.03	0.56	0.91	1.01	1.12

Note: Coefficients in bold are significant at $p < .05$