

1 **Supplementary Table 1** – Results of generalized estimating equation showing the primary exposure (main predictors) of last hour of shift, last
 2 quarter of shift, and shift hour relative to the first hour, stratified by three ESI levels (1, 2-3, and 4-5). Reference categories: main predictors = first *n*
 3 hours, first quarter of shift, or first hour; age, N/A; gender, male; 24-hour clock, N/A; ESI, N/A. ESI = emergency severity index. 95% CI = 95%
 4 confidence interval.

Stratified Results from Generalized Estimating Equation with log link and exchangeable correlation structure* predicting probability of admission from ER.

		ESI 1		ESI 2-3		ESI 4-5	
		Relative Risk	95% CI	Relative Risk	95% CI	Relative Risk	95% CI
Model 1		Shift hour					
	First <i>n</i> hours of shift	1.00 (ref)	(ref)	1.00 (ref)	(ref)	1.00 (ref)	(ref)
	Last hour of shift	1.034	(0.998-1.072)	1.065	(1.028-1.103)	1.62	(0.996-2.635)
	Age	1.01	(1.01-1.011)	1.021	(1.021-1.022)	1.038	(1.034-1.043)
	Sex						
	Male	1.00 (ref)	(ref)	1.00 (ref)	(ref)	1.00 (ref)	(ref)
	Female	0.909	(0.897-0.922)	0.895	(0.886-0.903)	0.986	(0.821-1.183)
	24 Hour clock	0.998	(0.997-1)	1.005	(1.004-1.006)	0.998	(0.983-1.013)
Model 2		Shift quarter					
	First three quarters	1.00 (ref)	(ref)	1.00 (ref)	(ref)	1.00 (ref)	(ref)
	Last quarter of shift	1.026	(1.011-1.042)	1.034	(1.022-1.047)	1.236	(0.996-1.535)
	Age	1.01	(1.01-1.011)	1.021	(1.021-1.022)	1.038	(1.034-1.043)
	Sex						
	Male	1.00 (ref)	(ref)	1.00 (ref)	(ref)	1.00 (ref)	(ref)
	Female	0.909	(0.897-0.922)	0.895	(0.887-0.903)	0.987	(0.822-1.185)
	24 Hour clock	0.998	(0.997-0.999)	1.005	(1.004-1.005)	0.996	(0.981-1.011)
Model 3		Shift hour					
	Hour 1	1.00 (ref)	(ref)	1.00 (ref)	(ref)	1.00 (ref)	(ref)
	Hour 2	1.017	(0.989-1.045)	0.985	(0.969-1.002)	0.994	(0.728-1.355)
	Hour 3	1.01	(0.982-1.038)	1.018	(1-1.035)	0.911	(0.654-1.27)
	Hour 4	1.003	(0.975-1.031)	1.049	(1.031-1.066)	0.996	(0.718-1.381)
	Hour 5	0.997	(0.969-1.025)	1.031	(1.014-1.049)	1.204	(0.869-1.669)
	Hour 6	1.042	(1.014-1.071)	1.059	(1.04-1.077)	1.076	(0.757-1.531)
	Hour 7	1.031	(1.002-1.061)	1.052	(1.032-1.072)	1.236	(0.848-1.8)
	Hour 8	1.051	(1.014-1.09)	1.043	(1.016-1.071)	1.63	(1.072-2.479)
	Hour 9	1.108	(1.05-1.168)	1.071	(1.016-1.13)	1.36	(0.662-2.793)
	Age	1.01	(1.01-1.011)	1.022	(1.021-1.022)	1.038	(1.034-1.043)
	Sex						
	Male	1.00 (ref)	(ref)	1.00 (ref)	(ref)	1.00 (ref)	(ref)
	Female	0.91	(0.897-0.923)	0.895	(0.887-0.904)	0.99	(0.825-1.189)
	24 Hour clock	0.998	(0.997-0.999)	1.005	(1.004-1.006)	0.996	(0.981-1.011)

Note:

*Physician used as clustering level