

Supplemental Table: Multilevel Logistic Regression models of Readmission using Charlson

Index using Hospital Level random intercept

<b>Model Info</b>	<b>Model 1</b>		<b>Model 2</b>		<b>Model 3</b>	
N	1,662,983		1,659,576		1,658,372	
LL	-1,702,361.6		-1,693,222.5		-1,683,418.1	
df	3		22		41	
AIC	3,404,729.3		3,386,489.0		3,366,918.3	
BIC	3,404,766.3		3,386,760.0		3,367,423.5	
<b>Predictors</b>	<b>OR (95% CI)</b>	<b>P</b>	<b>OR (95% CI)</b>	<b>P</b>	<b>OR (95% CI)</b>	<b>P</b>
<b>Charlson Index (per 1)</b>	1.15 (1.15, 1.15)	<.001	1.14 (1.13, 1.14)	<.001	1.12 (1.12, 1.12)	<.001
<b>Year (ref=2010)</b>						
2011		1.00 (0.97, 1.02)	0.709		1.00 (0.97, 1.02)	0.673
2012		0.96 (0.94, 0.98)	<.001		0.96 (0.94, 0.98)	<.001
2013		0.93 (0.91, 0.95)	<.001		0.93 (0.91, 0.95)	<.001
2014		0.92 (0.90, 0.94)	<.001		0.92 (0.90, 0.94)	<.001
2015		0.88 (0.87, 0.90)	<.001		0.88 (0.86, 0.90)	<.001
2016		0.88 (0.86, 0.90)	<.001		0.87 (0.85, 0.89)	<.001
<b>Quarter (ref=1<sup>st</sup>)</b>						
2 <sup>nd</sup> Quarter		0.97 (0.95, 0.98)	<.001		0.97 (0.96, 0.98)	<.001
3 <sup>rd</sup> Quarter		1.01 (0.99, 1.02)	0.411		1.01 (1.00, 1.02)	0.167
4 <sup>th</sup> Quarter		0.99 (0.97, 1.00)	0.038		0.99 (0.98, 1.01)	0.277
<b>Sex (ref=male)</b>						
Female		0.94 (0.93, 0.95)	<.001		0.92 (0.91, 0.93)	<.001
<b>Age (per 10 year)</b>		1.00 (0.99, 1.00)	0.796		0.97 (0.97, 0.98)	<.001
<b>Income Quartile (ref=1<sup>st</sup>)</b>						
2 <sup>nd</sup> Quartile		0.98 (0.97, 1.00)	0.019		0.98 (0.97, 0.99)	0.003
3 <sup>rd</sup> Quartile		0.98 (0.97, 1.00)	0.015		0.97 (0.95, 0.98)	<.001
4 <sup>th</sup> Quartile		0.97 (0.95, 0.99)	<.001		0.94 (0.93, 0.96)	<.001
Missing		0.96 (0.93, 1.00)	0.073		0.97 (0.93, 1.00)	0.083
<b>Payer (ref=Medicare)</b>						
Medicaid		1.07 (1.05, 1.09)	<.001		1.08 (1.06, 1.10)	<.001
Private		0.67 (0.66, 0.68)	<.001		0.69 (0.68, 0.71)	<.001
Self-Pay		0.59 (0.57, 0.61)	<.001		0.62 (0.60, 0.64)	<.001
Other/No Charge		0.77 (0.75, 0.80)	<.001		0.79 (0.77, 0.82)	<.001
<b>Disposition (ref=Routine to home)</b>						
Post-acute care					1.30 (1.28, 1.32)	<.001
Other					1.13 (1.06, 1.20)	<.001
Home Health					1.35 (1.33, 1.37)	<.001
<b>Length of Stay (per day)</b>					1.02 (1.02, 1.02)	<.001
<b>Care intensity (ref=No)</b>						
Non-invasive ventilation					1.16 (1.14, 1.18)	<.001
Mechanical ventilation					0.95 (0.92, 0.97)	<.001
Tracheostomy					1.02 (0.97, 1.09)	0.425
Cardiac arrest					0.82 (0.74, 0.91)	<.001
CPR					1.08 (0.95, 1.24)	0.242
<b>Hospital ownership (ref=government)</b>						
Private, non-profit					0.99 (0.98, 1.01)	0.437
Private, for-profit					1.04 (1.01, 1.06)	<.001
<b>Hospital teaching status (ref=Non-teaching)</b>						
Teaching Hospital					1.01 (0.99, 1.02)	0.423
<b>Hospital location (ref=Large metro area)</b>						
Small metro area					0.94 (0.92, 0.95)	<.001

<i>Metropolitan area</i>	0.89 (0.87, 0.91)	<.001
<i>Rural</i>	0.87 (0.84, 0.90)	<.001
<b>Hospital Bed Size (ref=Small)</b>		
<i>Medium</i>	1.01 (0.99, 1.03)	0.174
<i>Large</i>	1.02 (1.00, 1.04)	0.040
<b>Annual Discharge (per 10k)</b>	1.01 (1.00, 1.02)	0.130
<b>Proportion Medicaid per 10%</b>	1.00 (1.00, 1.01)	0.531