

Supplemental Online Content

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This supplemental material has been provided by the authors to give readers additional information about their work.

eTable 1: Covariate Distributions in Unweighted and Propensity Score Weighted Samples

Covariates Distributions in Unweighted and PS Weighted Samples				
Characteristics	Unweighted Samples		PS Weighted Samples	
	No Early Oseltamivir	Early Oseltamivir	No Early Oseltamivir	Early Oseltamivir
Age				
< 2	41.0% (9258)	35.0% (11624)	33.7% (11190)	35.0% (11624)
2 - 5	21.0% (4755)	20.5% (6806)	20.8% (6903)	20.5% (6806)
≥ 5	38.0% (8579)	44.5% (14777)	45.5% (15113)	44.5% (14777)
Race				
Black	22.1% (5000)	25.1% (8336)	24.8% (8220)	25.1% (8336)
White	54.2% (12245)	49.6% (16461)	49.9% (16577)	49.6% (16461)
Other	18.4% (4150)	20.4% (6782)	20.3% (6756)	20.4% (6782)
Unknown	5.3% (1197)	4.9% (1628)	5.0% (1654)	4.9% (1628)
Insurance				
Public	61.4% (13872)	64.6% (21466)	64.5% (21403)	64.6% (21466)
Private	32.2% (7279)	30.8% (10225)	31.1% (10341)	30.8% (10225)
Other	4.4% (1003)	3.1% (1041)	3.1% (1036)	3.1% (1041)
Unknown	1.9% (438)	1.4% (475)	1.3% (428)	1.4% (475)
CCC				
CCC, Yes	46.8% (10581)	48.1% (15979)	48.7% (16171)	48.1% (15979)
Asthma				
Asthma, Yes	9.4% (2118)	12.6% (4170)	12.2% (4050)	12.6% (4170)
Early ICU				
Early ICU, Yes	24.0% (5429)	28.9% (9610)	28.1% (9347)	28.9% (9610)
Ventilation				
Ventilation, Yes	13.4% (3032)	17.6% (5846)	17.0% (5633)	17.6% (5846)
Early Antibiotic				
Early Antibiotic, Yes	65.4% (14764)	67.8% (22527)	68.2% (22640)	67.8% (22527)

Abbreviations: CCC, complex chronic condition; ICU, intensive care unit.

*Other includes those identified as other, Asian, American Indian/Alaskan/Native American, or NativeHawaiian/Pacific Islander.

eTable 2: Characteristics of children treated with early, late, and no oseltamivir during hospitalization.

Characteristic	No Oseltamivir	Late Oseltamivir	Early Oseltamivir
Number	18,494	4,098	33,207
Age Categories			
< 2	8027 (43.4)	1231 (30.0)	11624 (35.0)
2 - 5	3853 (20.8)	902 (22.0)	6806 (20.5)
≥ 5	6614 (35.8)	1965 (48.0)	14777 (44.5)
Gender			
Male	10337 (55.9)	2254 (55.0)	18715 (56.4)
Female	8153 (44.1)	1842 (44.9)	14491 (43.6)
Race			
Black	4021 (21.7)	979 (23.9)	8336 (25.1)
White	10214 (55.2)	2031 (49.6)	16461 (49.6)
Other	3243 (17.5)	907 (22.1)	6782 (20.4)
Unknown	1016 (5.5)	181 (4.4)	1628 (4.9)
Insurance Type			
Public	11278 (61.0)	2594 (63.3)	21466 (64.6)
Private	6093 (32.9)	1186 (28.9)	10225 (30.8)
Other	846 (4.6)	157 (3.8)	1041 (3.1)
Unknown	277 (1.5)	161 (3.9)	475 (1.4)
Region			
Midwest	4352 (23.5)	919 (22.4)	8082 (24.3)
Northeast	1992 (10.8)	456 (11.1)	3237 (9.7)
South	7988 (43.2)	1582 (38.6)	12817 (38.6)
West	4162 (22.5)	1141 (27.8)	9071 (27.3)
CCC			
No	10704 (57.9)	1307 (31.9)	17228 (51.9)
Yes	7790 (42.1)	2791 (68.1)	15979 (48.1)
History of Asthma (no CCC)			
No	16643 (90.0)	3831 (93.5)	29037 (87.4)
Yes	1851 (10.0)	267 (6.5)	4170 (12.6)
Early ICU			
No	14263 (77.1)	2900 (70.8)	23597 (71.1)
Yes	4231 (22.9)	1198 (29.2)	9610 (28.9)

Abbreviations: CCC, complex chronic condition; ICU, intensive care unit.

*Other includes those identified as other, Asian, American Indian/Alaskan/Native American, or NativeHawaiian/Pacific Islander.

eTable 3: Covariate Distributions in Weighted Cohort by Age Group

Covariate Distributions in Weighted Cohort by Age Group			
Group/Covariates	Categories	No Early Oseltamivir	Early Oseltamivir
Age: < 2			
Race	Black	25.7% (2881)	24.2% (2817)
	White	45.4% (5086)	46.6% (5419)
	Other	23.1% (2583)	22.9% (2667)
	Unknown	5.7% (640)	6.2% (721)
Insurance	Public	72.5% (8112)	72.9% (8472)
	Private	23.5% (2628)	23.0% (2675)
	Other	2.9% (322)	2.7% (310)
	Unknown	1.2% (129)	1.4% (167)
CCC	CCC, Yes	40.5% (4533)	33.2% (3854)
Asthma	Asthma, Yes	6.4% (712)	5.1% (597)
Early ICU	Early ICU, Yes	35.2% (3941)	27.9% (3247)
Ventilation	Ventilation, Yes	21.3% (2383)	17.0% (1975)
Early Antibiotic	Early Antibiotic, Yes	67.0% (7498)	63.7% (7399)
Age: 2 - 5			
Race	Black	24.9% (1717)	25.0% (1701)
	White	48.2% (3325)	49.7% (3382)
	Other	21.7% (1501)	20.5% (1392)
	Unknown	5.2% (360)	4.9% (331)
Insurance	Public	65.7% (4536)	64.7% (4406)
	Private	29.6% (2047)	30.1% (2047)
	Other	3.3% (225)	3.6% (243)
	Unknown	1.4% (95)	1.6% (110)
CCC	CCC, Yes	48.9% (3377)	50.6% (3442)
Asthma	Asthma, Yes	14.9% (1030)	14.8% (1006)
Early ICU	Early ICU, Yes	24.2% (1668)	27.8% (1891)
Ventilation	Ventilation, Yes	14.5% (1003)	16.7% (1136)
Early Antibiotic	Early Antibiotic, Yes	70.0% (4833)	68.6% (4666)
Age: ≥ 5			
Race	Black	24.0% (3622)	25.8% (3818)
	White	54.0% (8165)	51.8% (7660)
	Other	17.7% (2672)	18.4% (2723)
	Unknown	4.3% (654)	3.9% (576)
Insurance	Public	57.9% (8754)	58.1% (8588)
	Private	37.5% (5667)	37.2% (5503)
	Other	3.2% (489)	3.3% (488)
	Unknown	1.3% (204)	1.3% (198)
CCC	CCC, Yes	54.7% (8261)	58.8% (8683)
Asthma	Asthma, Yes	15.3% (2309)	17.4% (2567)
Early ICU	Early ICU, Yes	24.7% (3737)	30.3% (4472)
Ventilation	Ventilation, Yes	14.9% (2246)	18.5% (2735)
Early Antibiotic	Early Antibiotic, Yes	68.2% (10308)	70.8% (10462)

Abbreviations: CCC, complex chronic condition; ICU, intensive care unit.

*Other includes those identified as other, Asian, American Indian/Alaskan/Native American, or NativeHawaiian/Pacific Islander.

eTable 4: Covariate Distributions in Weighted Cohort by Presence of a Complex Chronic Condition

Covariate Distributions in Weighted Cohort by CCC			
Group/Covariates	Categories	No Early Oseltamivir	Early Oseltamivir
CCC: No			
Age	< 2	39.1% (6657)	45.1% (7770)
	2 - 5	20.7% (3526)	19.5% (3364)
	≥ 5	40.2% (6853)	35.4% (6094)
Race	Black	24.7% (4203)	23.9% (4118)
	White	50.0% (8513)	49.2% (8477)
	Other	19.1% (3251)	20.7% (3558)
	Unknown	6.3% (1069)	6.2% (1075)
Insurance	Public	61.4% (10460)	62.7% (10807)
	Private	33.7% (5741)	32.3% (5568)
	Other	3.6% (620)	3.6% (614)
	Unknown	1.3% (214)	1.4% (239)
Asthma	Asthma, Yes	23.8% (4050)	24.2% (4170)
Early ICU	Early ICU, Yes	21.8% (3721)	27.8% (4796)
Ventilation	Ventilation, Yes	11.9% (2033)	15.2% (2624)
Early Antibiotic	Early Antibiotic, Yes	63.0% (10738)	61.1% (10524)
CCC: Yes			
Age	< 2	28.0% (4533)	24.1% (3854)
	2 - 5	20.9% (3377)	21.5% (3442)
	≥ 5	51.1% (8261)	54.3% (8683)
Race	Black	24.8% (4018)	26.4% (4218)
	White	49.9% (8064)	50.0% (7984)
	Other	21.7% (3505)	20.2% (3224)
	Unknown	3.6% (585)	3.5% (553)
Insurance	Public	67.7% (10942)	66.7% (10659)
	Private	28.4% (4600)	29.1% (4657)
	Other	2.6% (416)	2.7% (427)
	Unknown	1.3% (213)	1.5% (236)
Early ICU	Early ICU, Yes	34.8% (5626)	30.1% (4814)
Ventilation	Ventilation, Yes	22.3% (3600)	20.2% (3222)
Early Antibiotic	Early Antibiotic, Yes	73.6% (11902)	75.1% (12003)

Abbreviations: CCC, complex chronic condition; ICU, intensive care unit.

^aOther includes those identified as other, Asian, American Indian/Alaskan/Native American, or NativeHawaiian/Pacific Islander.

eTable 5: Covariate Distributions in Weighted Cohort by Asthma History

Covariate Distributions in Weighted Cohort by Asthma History			
Group/Covariates	Categories	No Early Oseltamivir	Early Oseltamivir
History of Asthma: No			
Age	< 2	35.9% (10479)	38.0% (11027)
	2 - 5	20.1% (5873)	20.0% (5800)
	≥ 5	43.9% (12805)	42.0% (12210)
Race	Black	23.6% (6887)	23.9% (6941)
	White	50.6% (14751)	50.5% (14651)
	Other	21.0% (6119)	20.9% (6063)
	Unknown	4.8% (1399)	4.8% (1382)
Insurance	Public	64.7% (18855)	65.4% (18980)
	Private	30.9% (9016)	30.1% (8728)
	Other	3.1% (904)	3.1% (898)
	Unknown	1.3% (381)	1.5% (431)
CCC	CCC, Yes	55.5% (16171)	55.0% (15979)
Early ICU	Early ICU, Yes	28.7% (8374)	27.9% (8112)
Ventilation	Ventilation, Yes	17.4% (5060)	17.1% (4976)
Early Antibiotic	Early Antibiotic, Yes	69.0% (20132)	69.5% (20187)
History of Asthma: Yes			
Age	< 2	17.6% (712)	14.3% (597)
	2 - 5	25.4% (1030)	24.1% (1006)
	≥ 5	57.0% (2309)	61.6% (2567)
Race	Black	32.9% (1333)	33.5% (1395)
	White	45.1% (1826)	43.4% (1810)
	Other	15.7% (637)	17.2% (719)
	Unknown	6.3% (255)	5.9% (246)
Insurance	Public	62.9% (2548)	59.6% (2486)
	Private	32.7% (1325)	35.9% (1497)
	Other	3.3% (132)	3.4% (143)
	Unknown	1.1% (46)	1.1% (44)
Early ICU	Early ICU, Yes	24.0% (972)	35.9% (1498)
Ventilation	Ventilation, Yes	14.1% (572)	20.9% (870)
Early Antibiotic	Early Antibiotic, Yes	61.9% (2508)	56.1% (2340)

Abbreviations: CCC, complex chronic condition; ICU, intensive care unit.

*Other includes those identified as other, Asian, American Indian/Alaskan/Native American, or Native Hawaiian/Pacific Islander.

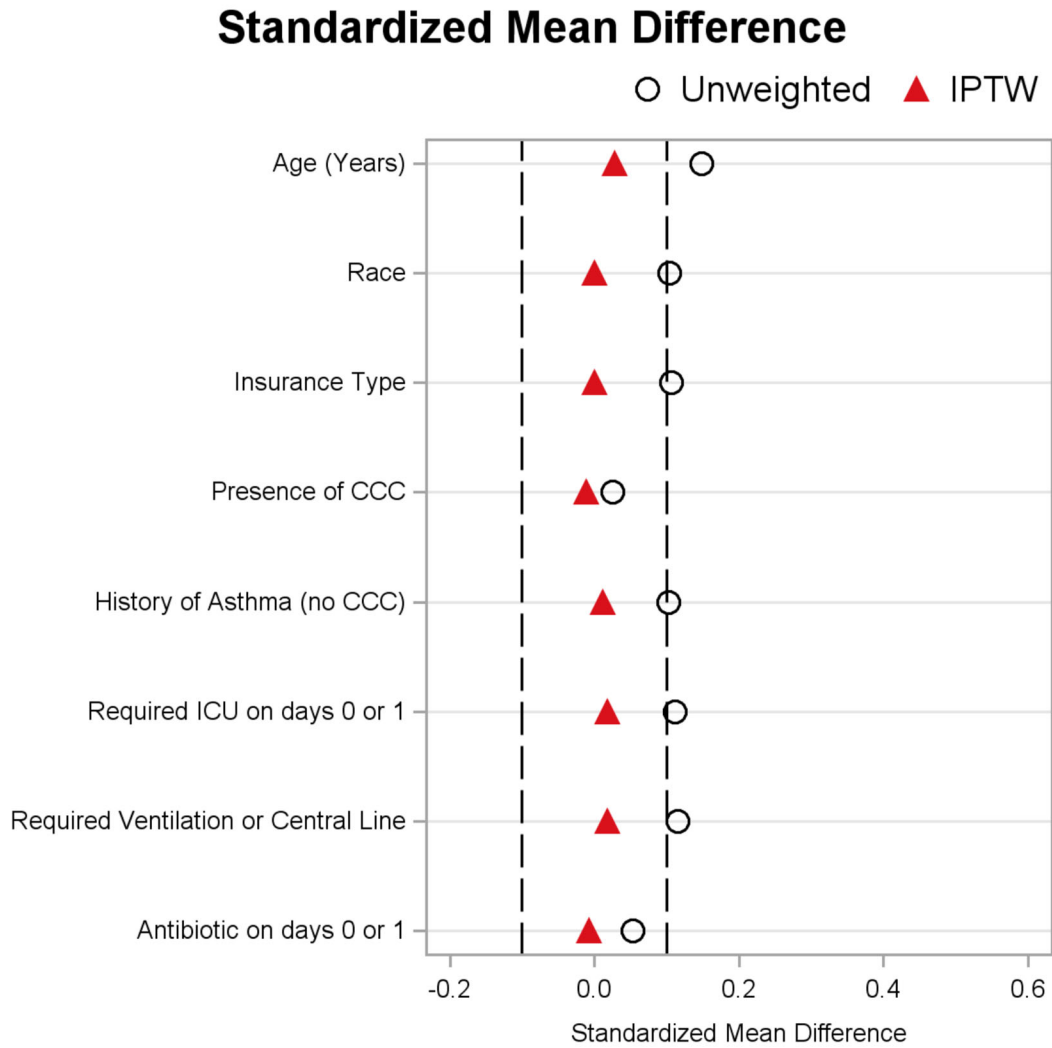
eTable 6: Covariate distributions in weighted cohort by early ICU requirement

Covariate Distributions in Weighted Cohort by Early ICU			
Group/Covariates	Categories	No Early Oseltamivir	Early Oseltamivir
Early ICU: No			
Age	< 2	30.4% (7250)	35.5% (8377)
	2 - 5	21.9% (5235)	20.8% (4915)
	≥ 5	47.7% (11376)	43.7% (10305)
Race	Black	24.5% (5834)	25.9% (6103)
	White	50.3% (12004)	48.3% (11399)
	Other	20.1% (4788)	20.9% (4928)
	Unknown	5.2% (1235)	4.9% (1167)
Insurance	Public	63.2% (15089)	65.6% (15486)
	Private	32.2% (7680)	29.9% (7051)
	Other	3.3% (780)	3.0% (714)
	Unknown	1.3% (312)	1.5% (346)
CCC	CCC, Yes	44.2% (10545)	47.3% (11165)
Asthma	Asthma, Yes	12.9% (3078)	11.3% (2672)
Ventilation	Ventilation, Yes	3.6% (853)	3.8% (900)
Early Antibiotic	Early Antibiotic, Yes	64.7% (15440)	64.7% (15273)
Early ICU: Yes			
Age	< 2	42.2% (3941)	33.8% (3247)
	2 - 5	17.8% (1668)	19.7% (1891)
	≥ 5	40.0% (3737)	46.5% (4472)
Race	White	48.9% (4573)	52.7% (5062)
	Black	25.5% (2386)	23.2% (2233)
	Other	21.1% (1968)	19.3% (1854)
	Unknown	4.5% (419)	4.8% (461)
Insurance	Public	67.5% (6314)	62.2% (5980)
	Private	28.5% (2661)	33.0% (3174)
	Other	2.7% (256)	3.4% (327)
	Unknown	1.2% (116)	1.3% (129)
CCC	CCC, Yes	60.2% (5626)	50.1% (4814)
Asthma	Asthma, Yes	10.4% (972)	15.6% (1498)
Ventilation	Ventilation, Yes	51.1% (4780)	51.5% (4946)
Early Antibiotic	Early Antibiotic, Yes	77.0% (7199)	75.5% (7254)

Abbreviations: CCC, complex chronic condition; ICU, intensive care unit.

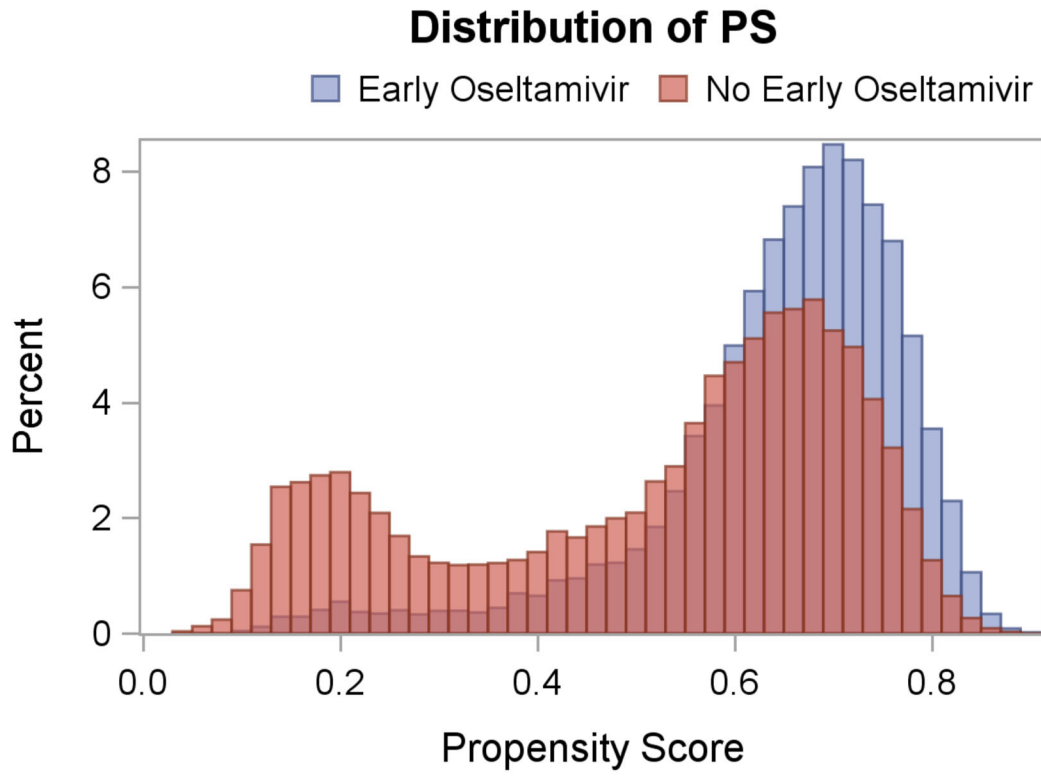
*Other includes those identified as other, Asian, American Indian/Alaskan/Native American, or Native Hawaiian/Pacific Islander.

eFigure 1: Love plot of standardized mean differences of covariates for unweighted and IPTW cohort in the primary analysis.

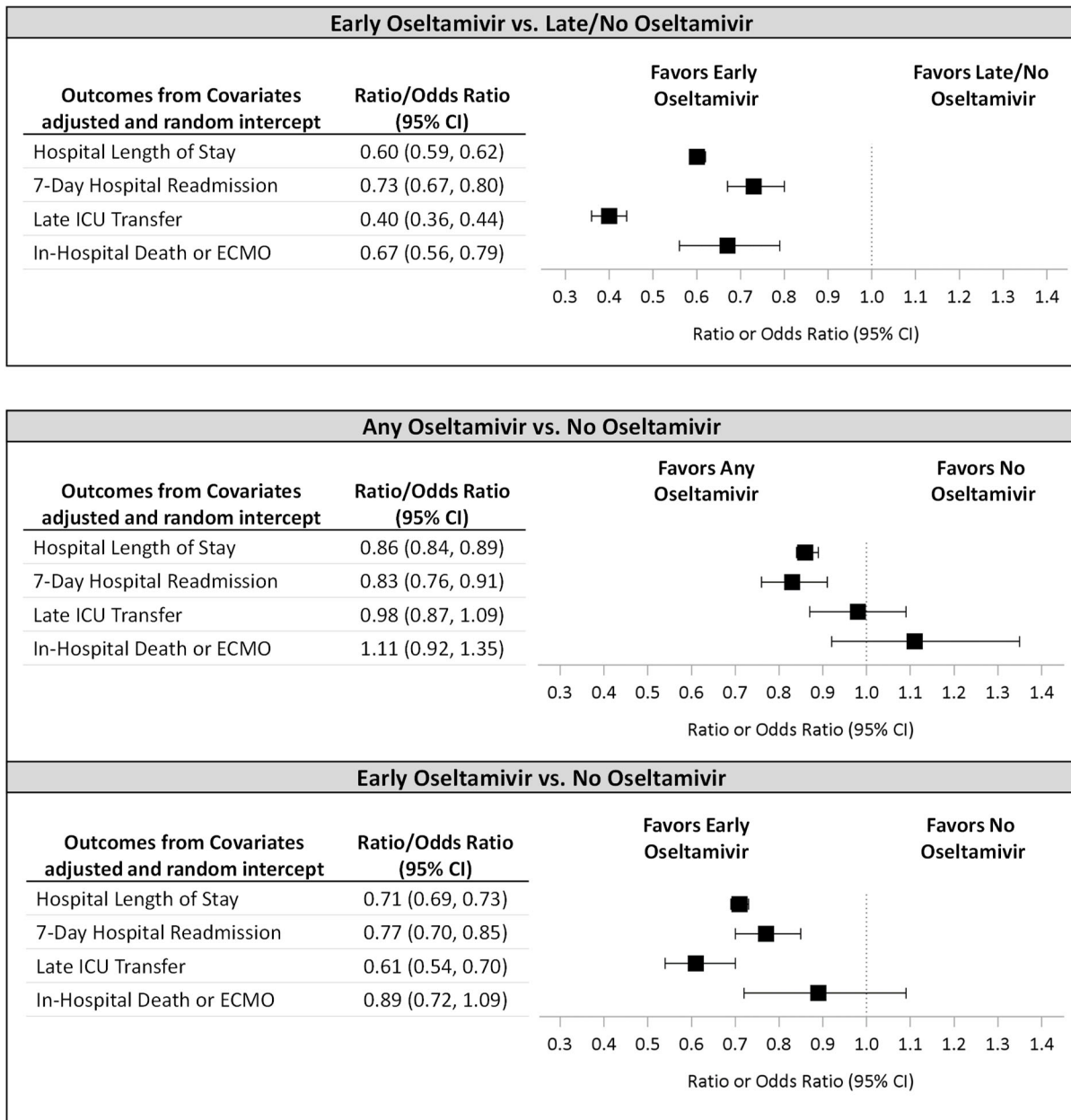


IPTW, inverse probability treatment weighting; CCC, complex chronic condition; ICU, intensive care unit.

eFigure 2: Distributions of propensity scores for treatment with early oseltamivir.



eFigure 3: Results of covariate-adjusted mixed effects models of oseltamivir use and outcomes.



Upper panel: Analysis of early oseltamivir compared to no early oseltamivir.

Lower panel: Analyses of any oseltamivir treatment vs. none and early oseltamivir vs. none (excluding late oseltamivir).