

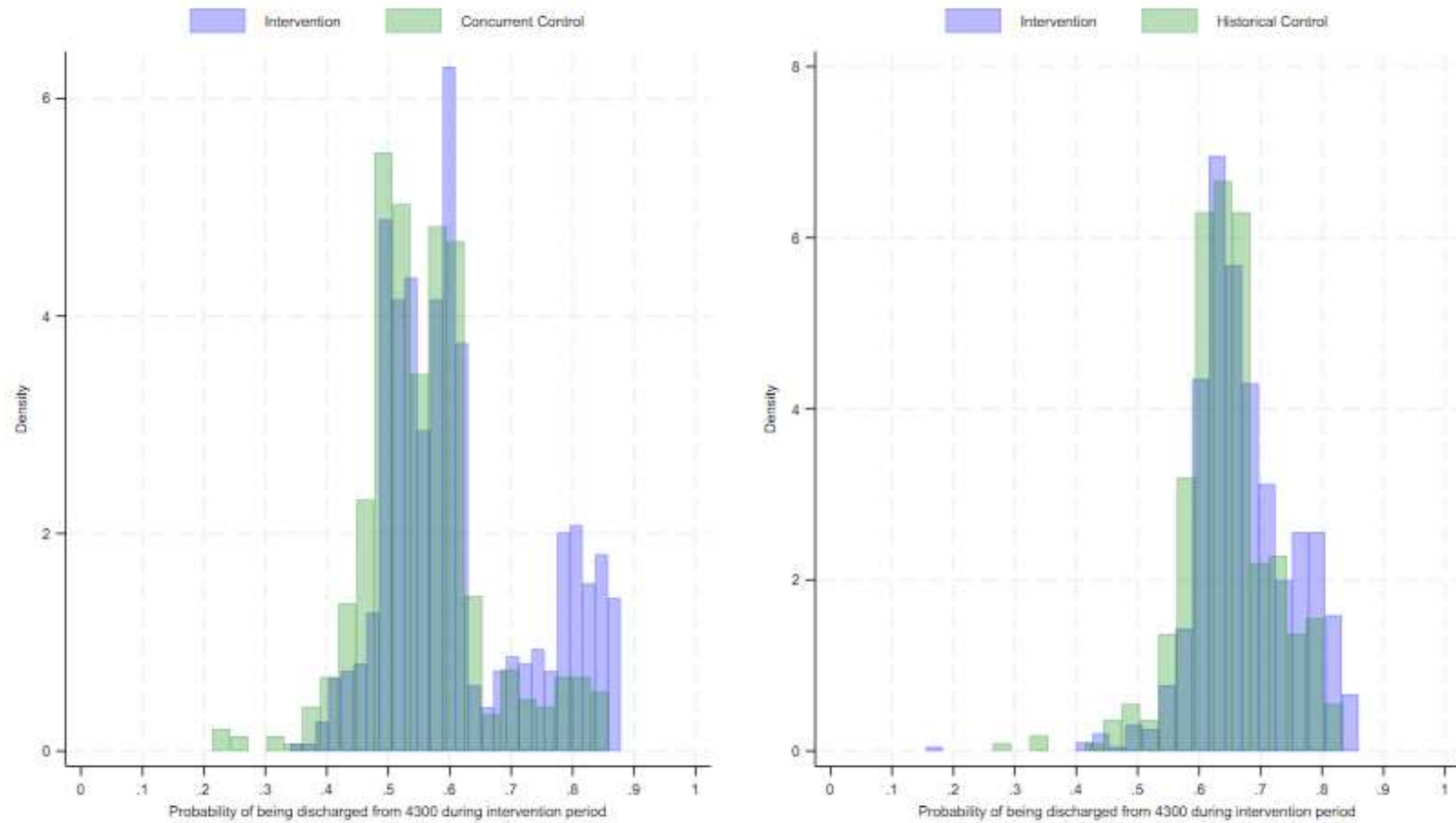
**Supplemental Table 1.** Logistic regressions predicting discharge from 4300 unit during intervention

Variable	Odds of being discharge from 4300 unit vs.	
	Concurrent Control (n=1224)	Historical Control (n=1088)
	Odds Ratio (95% CI)	Odds Ratio (95% CI)
Constant	1.24 (0.53,2.89)	1.32 (0.54,3.26)
Age at discharge (years)	1.00 (0.99,1.00)	1.00 (0.99,1.01)
Gender		
Female	(ref)	(ref)
Male	1.05 (0.83,1.33)	0.99 (0.77,1.28)
Race <sup>1</sup>		
Black	(ref)	(ref)
White	1.51 (1.16,1.95)	1.25 (0.95,1.66)
American Indian/Alaska Native, Asian/Pacific Islander, 2 or more races or other	1.21 (0.67,2.17)	1.73 (0.87,3.41)
Refused/Not reported	1.10 (0.38,3.20)	0.49 (0.18,1.33)
Ethnicity <sup>2</sup>		
Hispanic	(ref)	(ref)
Non-Hispanic	1.08 (0.52,2.27)	1.72 (0.80,3.68)
Refused/Not reported	1.30 (0.47,3.64)	1.72 (0.60,4.95)
Insurance		
Private/Other	(ref)	(ref)
Public	1.08 (0.79,1.46)	0.83 (0.59,1.17)
Self-Pay	0.67 (0.41,1.08)	0.80 (0.46,1.39)
MSDRG Weight	0.89 (0.82,0.96)	0.88 (0.81,0.97)
Time spent in ICU (hours)		
No ICU	(ref)	(ref)
<24 hours	4.01 (1.73,9.26)	2.12 (0.98,4.60)
24-72 hours	4.09 (2.48,6.74)	2.14 (1.36,3.38)
>72 hours	2.52 (1.60,3.96)	1.94 (1.20,3.14)
Duke Primary Care Active Patient		
No	(ref)	(ref)
Yes	0.90 (0.69,1.19)	0.87 (0.65,1.17)

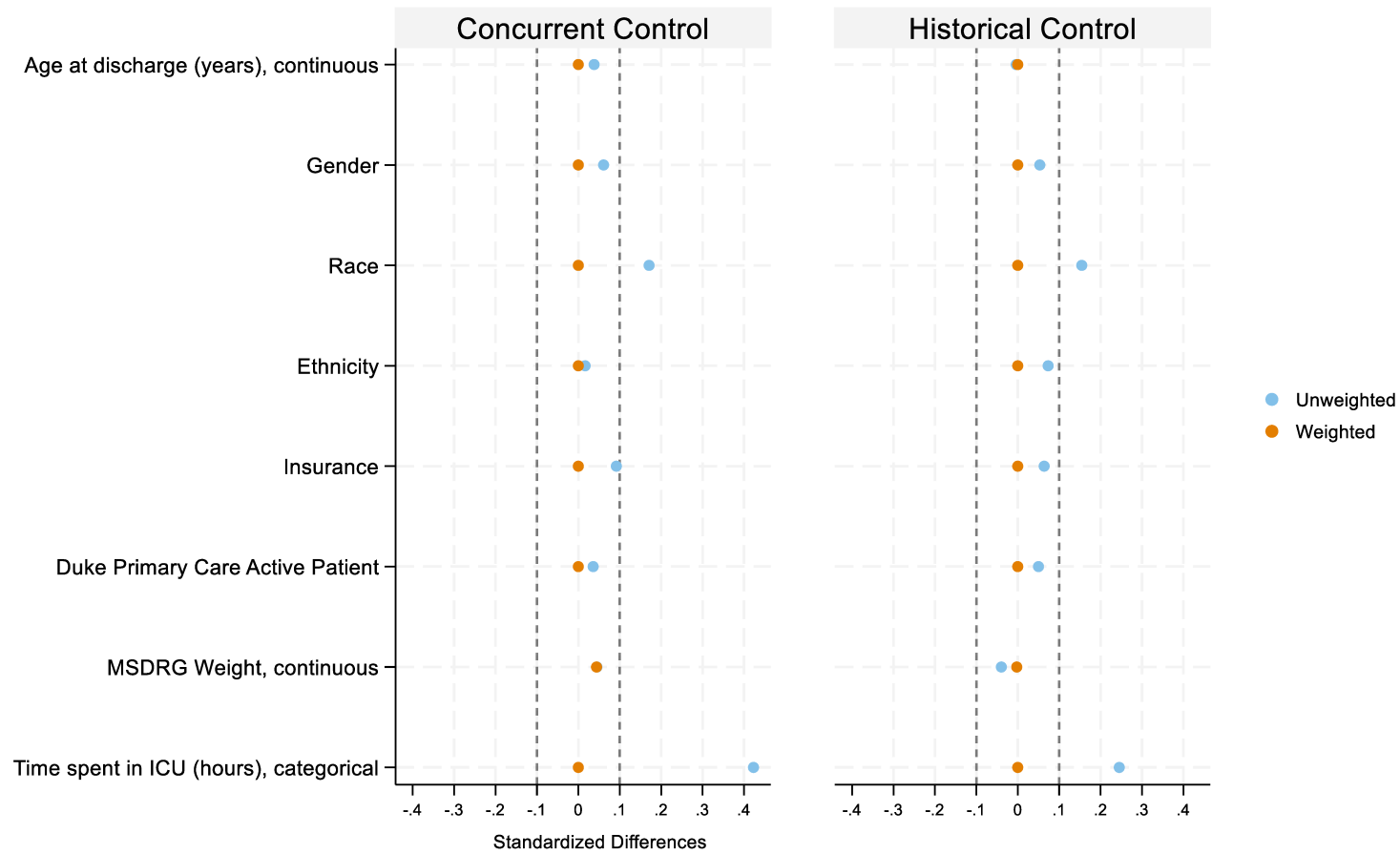
<sup>1</sup>Race is a mix of self-report and health care worker perceived race recorded in electronic medical records.

<sup>2</sup>Ethnicity is predominantly self-reported in electronic medical records.

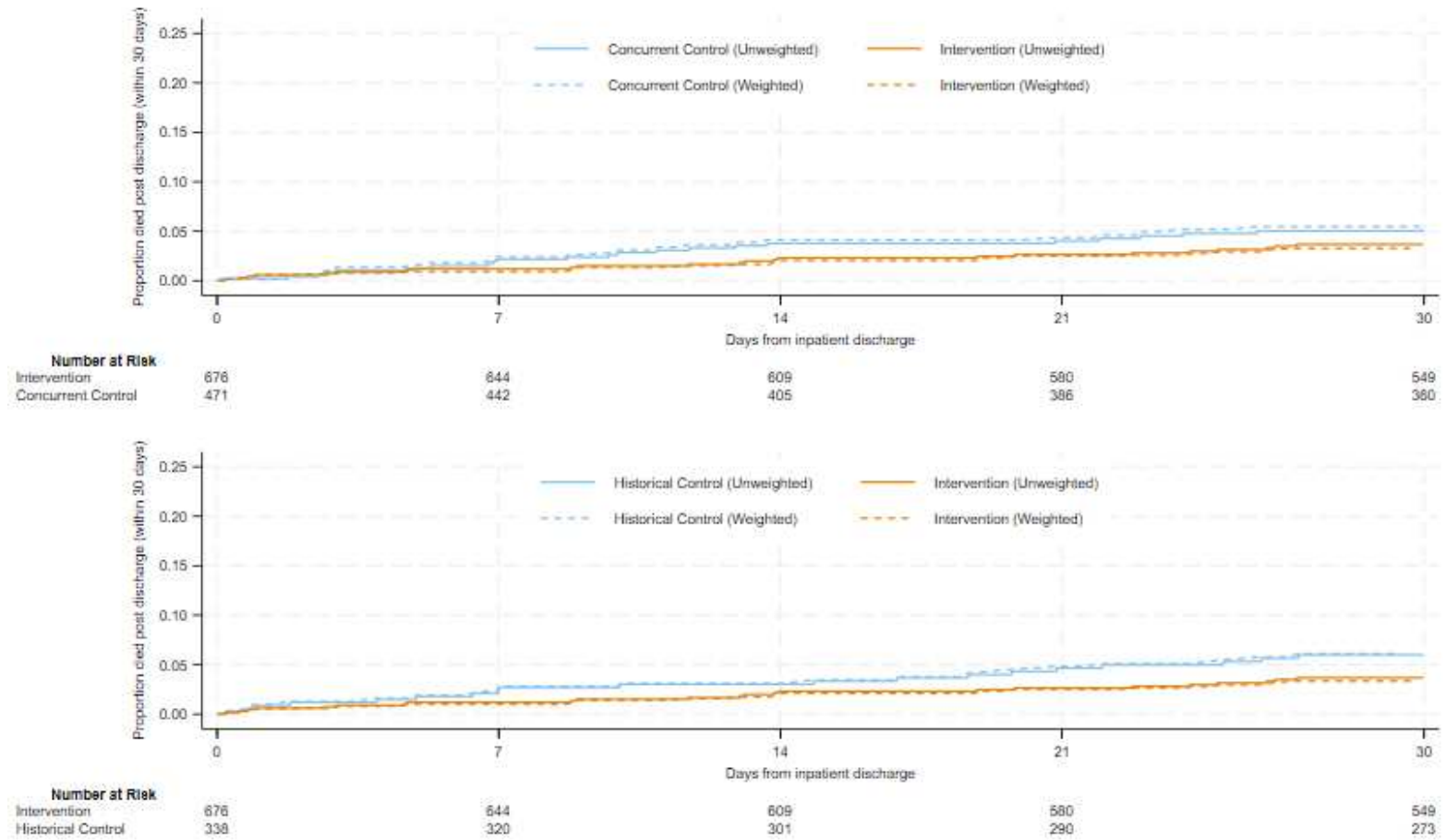
**Supplemental Figure 1.** Comparison of predicted probability of being discharged from the 4300 unit during the intervention period by actual intervention/control status, by control type



**Supplemental Figure 2.** Balance of baseline and subsequent characteristics between intervention and control conditions before and after applying overlap weights



**Supplemental Figure 3** Weighted and unweighted Kaplan Meier plots illustrating time to death (up to 30 days), post discharge by treatment arm and control type



**Supplemental Table 2.** Unweighted mean outcomes and regression estimates<sup>1</sup> with 95% confidence intervals, by control type

Outcome	Sample sizes corresponding to sample summaries by arm			Sample Summaries by Arm			Regression Estimates	
	Historical Control	Concurrent Control	Intervention	Historical Control	Concurrent Control	Intervention	Historical Control	Concurrent Control
<b>Primary outcomes</b>								
<b>Length of stay (days)<sup>2,4</sup></b>	361	494	715				Event time ratio (95% CI)	Event time ratio (95% CI)
Mean (SD)				12.5 (23.2)	10.8 (19.1)	8.0 (10.3)	0.84 (0.75,0.95)	0.89 (0.80,0.98)
Median (IQR)				5.7 (3.6,11.9)	5.6 (3.5,10.4)	4.9 (3.0,9.1)		
<b>Inpatient death (%)</b>	366	502	723	1.4%	1.6%	1.1%		
<b>Length of stay (days) (censor at 95th percentile)</b>	362	496	716				Event time ratio (95% CI)	Event time ratio (95% CI)
Mean (SD)				9.4 (8.8)	8.7 (8.1)	7.4 (6.7)	0.85 (0.75,0.95)	0.89 (0.80,0.98)
Median (IQR)				5.7 (3.6,12.0)	5.6 (3.5,10.5)	4.9 (3.0,9.1)		
<b>Days to readmission (30-day endpoint)<sup>2,4</sup></b>	52	93	108				Hazard ratio (95% CI)	Hazard ratio (95% CI)
Mean (SD)				15.2 (8.7)	14.7 (8.3)	14.4 (8.1)	1.03 (0.74,1.49)	0.78 (0.59,1.04)
Median (IQR)				12.5 (8.3,22.7)	13.0 (8.7,21.8)	14.2 (7.5,21.3)		
<b>Readmitted within 30 days (%)</b>	338	471	676	15.4%	19.7%	16.0%		
<b>Days to death (30-days) for patients in readmission cohort</b>	21	22	23				Hazard ratio (95% CI)	Hazard ratio (95% CI)
Mean (SD)				14.1 (10.5)	10.6 (7.9)	12.6 (9.5)	0.55 (0.30,0.97)	0.71 (0.39,1.36)
Median (IQR)				14.8 (4.9,22.0)	9.2 (4.9,13.7)	13.0 (3.0,22.7)		
<b>Death prior to 30-day readmission (%)</b>	338	471	676	6.2%	4.7%	3.4%		
<b>Secondary Outcomes</b>								
<b>Estimated discharge date accurate (%)<sup>2</sup></b>	339	460	680	57.2%	62.2%	61.3%	Risk Ratio (95% CI)	Risk Ratio (95% CI)
<b>Hours from last EDD update to discharge</b>	339	460	680				1.07 (0.96,1.20)	0.99 (0.90,1.09)
Mean (SD)				35.7 (19.5)	33.5 (15.2)	34.3 (17.7)		
Median (IQR)				28.7 (25.7,32.7)	28.4 (25.8,31.7)	27.9 (24.7,32.8)		
<b>Time of day of discharge<sup>2</sup></b>	361	494	715				Mean estimate (95% CI)	Mean estimate (95% CI)
Mean (SD <sup>3</sup> )				02:42 PM (2.7)	02:33 PM (2.5)	02:27 PM (2.8)	-15.0 (-35.9,5.0)	-5.8 (-24.7,12.5)
Median (IQR)				02:50 PM (12:43 PM,04:34 PM)	02:29 PM (12:38 PM,04:23 PM)	02:18 PM (12:11 PM,04:26 PM)		

<sup>1</sup>Event time ratios estimated with accelerated failure time models (loglogistic distribution), hazard ratios with Cox proportional hazards models, risk ratios with binomial models (log link), and mean estimates with linear regression. All 95% confidence intervals calculated using percentile intervals generated using cluster bootstrapping

<sup>2</sup>Outcomes prespecified as main outcomes of interest, all others meant to provide additional information and/or context

<sup>3</sup>Standard deviation of sample mean in minutes

<sup>4</sup>Sample sizes correspond to means which are conditional on having the event of interest. For LOS, this means the mean/median are calculated only for those discharged alive; for days to readmission, sample summaries are condition on having a readmission within 30 days. Regressions, however, make use of the full sample population.