Table E1: Bivariable relationships between study variables and outcomes*

	ER Visits		OS Prescription Fills	
Panel A: Categorical Variables	**% (n)**	*p*-value	**% (n)**	*p*-value
Sex:		0.36		**0.031**
Male [n=159]	7.6 (12)		36.5 (58)	
Female [n=409]	10.0 (41)		46.5 (190)	
Race/Ethnicity		0.065		**0.006**
Non-Hispanic, White [n=424]	8.0 (34)		40.3 (171)	
Non-Hispanic, Black/African American [n=144]	13.2 (19)		53.5 (77)	
Study Group**		0.91		0.90
Treatment Group [n=272]	9.2 (25)		43.4 (118)	
Control Group [n=296]	9.5 (28)		43.9 (130)	
Antidepressant Prescription Fills†		0.069		0.42
No [n=442]	8.1 (36)		42.8 (189)	
Yes [n=126]	13.5 (17)		46.8 (59)	
Psychotherapy Visits‡		0.055		0.75
No [n=529]	8.7 (46)		43.5 (230)	
Yes [n=39]	18.0 (7)		46.2 (18)	
ACT Controlled§		**0.047**		**0.005**
No [n=198]	12.6 (25)		51.5 (102)	
Yes [n=359]	7.5 (27)		39.3 (141)	

		p-value		p-value
Depression at Baseline (Time 1) ‖		0.76		0.12
No [n=364]	9.6 (35)		41.2 (150)	
Yes [n=204]	8.8 (18)		48.0 (98)	
Depression at 15-month Follow-Up (Time 2) ‖		0.088		0.91
No [n=381]	7.9 (30)		43.8 (167)	
Yes [n=187]	12.3 (23)		43.3 (81)	
Panel B: Continuous Variables	**Mean (SD) [n]**	*p*-value	**Mean (SD) [n]**	*p*-value
Age		0.47		0.52
No: Visits/Fills	45.3 (9.1) [515]		44.8 (9.8) [320]	
Yes: Visits/Fills	44.2 (9.9) [53]		45.8 (8.4) [248]	
ICS Adherence¶		0.90		0.059
No: Visits/Fills	38.2 (39.5) [506]		36.2 (40.1) [314]	
Yes: Visits/Fills	37.1 (37.7) [52]		40.6 (38.1) [244]	
History of ER Visits¶¶		**0.010**		0.14
No: Visits/Fills	0.06 (0.29) [575]		0.06 (0.31) [320]	
Yes: Visits/Fills	0.19 (0.52) [53]		0.09 (0.34) [248]	

		0.075		<0.001
History of OS Prescription Fills¶¶				
No: Visits/Fills	0.71 (1.23) [515]		0.48 (0.92) [320]	
Yes: Visits/Fills	1.13 (1.83) [53]		1.10 (1.60) [248]	

ER denotes emergency room; OS, oral steroid; SD, standard deviation;

*Bivariable models comparing main study variables with dichotomous outcomes - ER visits and OS fills - separately in the 12-month period after the second survey administration point. Models with categorical variables (Panel A) use chi-square tests and models with continuous variables (Panel B) use wilcoxon two-sample tests.

**Represents individuals who participated in the Adherence Feedback for Improving Respiratory Medication Use (AFFIRM) trial by group (treatment versus control).

†Any antidepressant medication prescription fills in a 3-month period corresponding to the second administration period (yes/no).

‡Any psychotherapy visit in a 3-month period corresponding to the second administration period (yes/no).

§Baseline ACT dichotomized such that scores ≤19 were considered uncontrolled asthma and scores >19 were considered controlled asthma.

‖Represents individuals who met criteria for depression, as measured using the Whooley 2-item case finding instrument. An answer of yes to either question is considered positive.

¶Represents a 3-month measure of ICS use corresponding to the time of the follow-up survey.

¶¶Represents the number of asthma-related events in the 12-month window before the date of the follow-up survey.

Table E2: Depression measured over time as a predictor of asthma exacerbations*

	ER Visits		OS Prescription Fills	
	RR (95% CI)	*p*-value	RR (95% CI)	*p*-value
History of ER visits †	2.78 (1.62, 4.76)	**<0.001**	-	-
History of OS fills‡	-	-	1.46 (1.36, 1.56)	**<0.001**
Depression §				
Yes-No (ref.=No-No)	0.46 (0.16, 1.36)	0.16	1.11 (0.82, 1.50)	0.50
Yes-Yes (ref.=No-No)	1.41 (0.70, 2.83)	0.34	1.20 (0.78, 1.86)	0.41
No-Yes (ref.=No-No)	1.52 (0.53, 4.36)	0.43	0.88 (0.57, 1.36)	0.57
No-Yes (ref.=Yes-No)	3.30 (1.08, 9.96)	**0.035**	0.79 (0.54, 1.18)	0.25
Yes-Yes (ref.=Yes-No)	3.04 (1.25, 7.41)	**0.014**	1.08 (0.71, 1.65)	0.71
No-Yes (ref.=Yes-Yes)	1.08 (0.43, 2.74)	0.86	0.73 (0.44, 1.21)	0.23

ER denotes emergency room; RR, relative risk; CI, confidence interval; ref.=reference

*Negative binomial regression models predict ER visits and OS fills in the 12-month period after the second survey administration point. All models adjusted for age (continuous), race/ethnicity, sex, study group (intervention vs. control), asthma control (good at 80% vs. poor at baseline), and 3-month CMA for ICS (continuous measure of medication adherence for inhaled corticosteroids at follow-up).

†Continuous number of ER visits for asthma in the 12-month period prior to the second survey administration point. This variable was not included in the analysis for OS Prescription Fills, as there was a null relationship found between the two variables.

‡Continuous number of OS fills for asthma in the 12-month period prior to the second

survey administration point. This variable was not included in the analysis for ER visits, as there was a null relationship found between the two variables.

§Depression measured by the Whooley et al. two-item depression case finding instrument at baseline and follow-up. A 'yes' answer indicates a positive response to either of the two questions. A yes-no response to the first and second surveys is set as the reference.

Table E3: Depression treatment participation and asthma exacerbations among participants with depression and asthma*

	ER Visits		OS Fills	
	HR (95% CI)	*p*-value	HR (95% CI)	*p*-value
Antidepressant prescription fills †	2.09 (1.35, 3.25)	**<0.001**	1.09 (0.79, 1.49)	0.61
Psychotherapy visits ‡	2.07 (1.38, 3.22)	**<0.001**	0.96 (0.63, 1.48)	0.85

ER denotes emergency room; OS, oral steroid; HR, hazard ratio; CI, confidence interval; ICS, inhaled corticosteroid medication fills

*Modified, multiple endpoints, cox proportional hazards models predict ER visit and OS fill event occurrences following the second survey administration point. All models adjusted for age (continuous), race/ethnicity, sex, study group (intervention vs. control), asthma control (good at 80% vs. poor at baseline), and 3-month CMA for ICS (continuous measure of medication adherence for inhaled corticosteroids at follow-up).

†Any antidepressant medication prescription fills in a 3-month period corresponding to the second administration period (yes/no).

‡ Any psychotherapy visit in a 3-month period corresponding to the second administration period (yes/no).