eTable 1. Confidence Intervals and P-values for Testing Null Correlations) Among Spirometry Variables Using CLIC Baseline Data

	FEV$_1$ % Pred	FEF$_{25-75}$ % Pred	FEV$_1$/FVC % Pred
FEV$_1$ % Pred		0.52 (0.33, 0.66) p < 0.0001	0.64 (0.49, 0.75) p < 0.0001
FEF$_{25-75}$ % Pred	0.64 (0.49, 0.75) p < 0.0001		0.62 (0.46, 0.74) p < 0.0001
FEV$_1$/FVC % Pred	0.52 (0.33, 0.66) p < 0.0001	0.62 (0.46, 0.74) p < 0.0001	

eTable 2. Confidence Intervals and P-values for Testing Null Correlations) Among Spirometry Variables Using PACT Baseline Data

	FEV$_1$ % Pred	FEF$_{25-75}$ % Pred	FEV$_1$/FVC % Pred
FEV$_1$ % Pred		0.77 (0.70, 0.83) p < 0.0001	0.54 (0.42, 0.64) p < 0.0001
FEF$_{25-75}$ % Pred	0.77 (0.70, 0.83) p < 0.0001		0.88 (0.85, 0.91) p < 0.0001
FEV$_1$/FVC % Pred	0.54 (0.42, 0.64) p < 0.0001	0.88 (0.85, 0.91) p < 0.0001	

eTable 3. Pearson Correlation and Partial Correlation Coefficients (with 95% Confidence Intervals and P-values for Testing Null Correlations) of Spirometry Variables with Clinical Variables Using CLIC Baseline Data

	FEV_1 % Predicted Correlations	FEV_1 % Predicted Partial Correlations	FEV_1 % Predicted Partial Correlations (Partialling out Clinical Variables)	FEF_{25-75} % Predicted Correlations	FEV_{25-75} % Predicted Partial Correlations	FEV_1 % Predicted Partial Correlations (Partialling out Clinical Variables)	FEV/FVC % Predicted Correlations	FEV/FVC % Predicted Partial Correlations	FEV_1 % Predicted Partial Correlations (Partialling out Clinical Variables)
Clinical Outcomes									
Diary Symptoms (Cough and Wheeze)	0.20 (0.03, 0.36) p = 0.02	0.13 (-0.08, 0.32) p = 0.22	0.09 (-0.14, 0.30) p = 0.45	0.09 (-0.07, 0.25) p = 0.26	0.07 (-0.14, 0.27) p = 0.50	0.03 (-0.19, 0.25) p = 0.78	0.05 ((-0.16, 0.25) p = 0.65	-0.08 (-0.28, 0.12) p = 0.42	-0.02 (-0.24, 0.20) p = 0.85
Diary Rescue Albuterol Use	-0.01 (-0.19, 0.16) p = 0.87	-0.02 (-0.23, 0.18) p = 0.83	-0.02 (-0.23, 0.18) p = 0.83	-0.09 (-0.25, 0.07) p = 0.27	-0.10 (-0.30, 0.11) p = 0.34	-0.10 (-0.30, 0.11) p = 0.34	-0.19 (-0.38, 0.01) p = 0.06	-0.06 (-0.26, 0.14) p = 0.55	-0.06 (-0.27, 0.15) p = 0.55
ACQ Score	-0.27 (-0.43, -0.11) p = 0.002	0.01 (-0.19, 0.21) p = 0.92	-0.05 (-0.27, 0.87) p = 0.68	-0.21 (-0.37, -0.04) p = 0.02	0.03 (-0.17, 0.23) p = 0.75	0.02 (-0.23, 0.19) p = 0.84	-0.19 (-0.38, 0.01) p = 0.06	-0.16 (-0.36, 0.04) p = 0.12	-0.01 (-0.31, 0.13) p = 0.40
Prior Hospitaliz-tions	-0.23 (-0.39, -0.06) p = 0.01	-0.05 (-0.25, 0.16) p = 0.64	-0.01 (-0.23, 0.21) p = 0.93	-0.30 (-0.44, -0.15) p = 0.0001	-0.19 (-0.38, 0.01) p = 0.06	-0.12 (-0.33, 0.11) p = 0.30	-0.09 (-0.29, 0.11) p = 0.37	0.09 (-0.12, 0.29) p = 0.41	0.12 (-0.11, 0.33) p = 0.30
Physiological Outcomes									
Diary AM PEF % Predicted	**0.48 (0.34, 0.60)** p <.0001	**0.49 (0.32, 0.63)** p <.0001	**0.46 (0.26, 0.61)** p <.0001	0.31 (0.15, 0.45) p = 0.0002	0.05 (-0.15, 0.25) p = 0.62	0.06 (-0.16, 0.28) p = 0.60	0.22 (0.02, 0.40) p = 0.03	-0.17 (-0.36, 0.03) p = 0.10	-0.10 (-0.32, 0.13) p = 0.39
Diary PM PEF % Predicted	0.47 (0.32, 0.59) p <.0001	0.51 (0.34, 0.65) p <.0001	0.49 (0.30, 0.64) p <.0001	0.28 (0.12, 0.43) p = 0.001	0.11 (-0.10, 0.31) p = 0.29	0.10 (-0.13, 0.32) p = 0.38	0.14 (-0.07, 0.33) p = 0.18	-0.28 (-0.46, -0.09) p = 0.01	-0.23 (-0.43, -0.01) p = 0.04
Max BD	-0.17 (-0.33,	0.19 (-0.02,	0.17 (-0.06,	**-0.67 (-0.75,**	**-0.70 (-0.79,**	**-0.74 (-0.83,**	-0.32 (-0.49,	0.16 (-0.04,	0.22 (-0.01,

Response (% Change in FEV$_1$)	0.01) p = 0.06	0.38) p = 0.06	0.38) p = 0.14	**-0.58) p <.0001**	**-0.58) p <.0001**	**-0.62) p <.0001**	-0.13) p = 0.001	0.35) p = 0.12	0.42) p = 0.06
log$_2$ (PC$_{20}$ methacholine)	0.25 (0.06, 0.42) p = 0.01	-0.02 (-0.24, 0.21) p = 0.88	-0.01 (-0.24, 0.23) p = 0.98	0.38 (0.20, 0.53) p < .0001	0.25 (0.03, 0.45) p = 0.02	0.24 (-0.01, 0.45) p = 0.04	0.44 (0.24, 0.60) p <.0001	0.21 (-0.01, 0.41) p = 0.06	0.20 (-0.05, 0.41) p = 0.10
log$_{10}$(FeNO)	0.07 (-0.25, 0.10) p = 0.41	0.10 (-0.11, 0.31) p = 0.33	0.06 (-0.17, 0.29) p = 0.61	-0.20 (-0.36, -0.04) p = 0.01	-0.10 (-0.30, 0.11) p = 0.34	-0.14 (-0.36, 0.10) p = 0.25	-0.19 (-0.38, 0.01) p = 0.07	-0.13 (-0.33, 0.08) p = 0.21	-0.04 (-0.27, 0.19) p = 0.72

eTable 4. Pearson Correlation and Partial Correlation Coefficients (with 95% Confidence Intervals and P-values for Testing Null Correlations) of Spirometry Variables with Clinical Variables Using PACT Baseline Data

	FEV$_1$ % Predicted Correlations	FEV$_1$ % Predicted Partial Correlations	FEV$_1$ % Predicted Partial Correlations (Partialling out Clinical Variables)	FEF$_{25-75}$ % Predicted Correlations	FEV$_{25-75}$ % Predicted Partial Correlations	FEV$_1$ % Predicted Partial Correlations (Partialling out Clinical Variables)	FEV/FVC % Predicted Correlations	FEV/FVC % Predicted Partial Correlations	FEV$_1$ % Predicted Partial Correlations (Partialling out Clinical Variables)
Clinical Outcomes									
Diary Symptoms (Cough and Wheeze)	-0.02 (-0.15, 0.10) p = 0.7140	0.00 (-0.14, 0.14) p = 0.97	0.01 (-0.14, 0.16) p = 0.86	-0.05 (-0.17, 0.07) p = 0.44	-0.05 (-0.19, 0.09) p = 0.50	-0.08 (-0.23, 0.07) p = 0.28	-0.06 (-0.20, 0.08) p = 0.43	0.03 (-0.11, 0.17) p = 0.66	0.09 (-0.06, 0.24) p = 0.25
Diary Rescue Albuterol Use	-0.14 (-0.26, -0.02) p = 0.0218	-0.07 (-0.21, 0.07) p = 0.35	-0.09 (-0.24, 0.06) p = 0.25	-0.16 (-0.28, -0.04) p = 0.01	-0.03 (-0.17, 0.11) p = 0.71	0.01 (-0.14, 0.16) p = 0.89	-0.23 (-0.36, -0.09) p = 0.001	-0.04 (-0.18, 0.10) p = 0.54	-0.06 (-0.21, 0.02) p = 0.41
ACQ Score	-0.20 (-0.32, -0.08) p = 0.0012	-0.17 (-0.30, -0.03) p = 0.02	-0.15 (-0.29, 0.00) p = 0.05	-0.15 (-0.27, -0.03) p = 0.02	0.11 (-0.03, 0.24) p = 0.14	0.06 (-0.09, 0.21) p = 0.44	-0.24 (-0.37, -0.11) p = 0.001	-0.16 (-0.30, -0.02) p = 0.02	-0.11 (-0.26, 0.04) p = 0.14
Prior Hospitaliz-tions	-0.04 (-0.16, 0.08) p = 0.5215	0.07 (-0.07, 0.21) p = 0.35	0.05 (-0.11, 0.20) p = 0.55	-0.03 (-0.16, 0.09) p = 0.58	-0.08 (-0.22, 0.06) p = 0.25	-0.06 (-0.21, 0.10) p = 0.47	0.02 (-0.12, 0.16) p = 0.78	0.08 (-0.06, 0.22) p = 0.28	0.04 (-0.11, 0.19) p = 0.60
Physiological Outcomes									
Diary AM PEF % Predicted	0.33 (0.21, 0.43) p <.0001	0.26 (0.12, 0.39) p = .0002	0.28 (0.14, 0.42) p = 0.0002	0.26 (0.15, 0.37) p <.0001	-0.12 (-0.26, 0.02) p = 0.09	-0.13 (-0.27, 0.02) p = 0.09	0.32 (0.19, 0.44) p <.0001	0.18 (-0.04, 0.31) p = 0.01	0.16 (0.01, 0.30) p = 0.05
Diary PM PEF % Predicted	0.30 (0.18, 0.41) p <.0001	0.26 (0.12, 0.38) p = .0002	0.28 (0.13, 0.41) p = 0.0002	0.22 (0.10, 0.33) p = 0.001	-0.14 (-0.28, -0.00) p = 0.04	-0.14 (-0.28, 0.01) p = 0.07	0.27 (0.14, 0.40) p = 0.0001	0.18 (0.04, -0.32) p = 0.01	0.15 (0.00, -0.29) p = 0.05
Max BD Response (% Change in	-0.46 (-0.56, -0.36)	0.13 (-0.00, 0.27)	0.11 (-0.04, 0.26)	**-0.46 (-0.56, -0.36)**	-0.23 (-0.36, -0.09)	-0.16 (-0.30, -0.01)	-0.42 (-0.53, -0.30)	0.01 (-0.13, 0.15)	-0.06 (-0.21, 0.09)

FEV$_1$)	p <.0001	p = 0.05	p = 0.14	p <.0001	p = 0.001	p = 0.04	p <.0001	p = 0.90	p = 0.42
log$_2$ (PC$_{20}$ methacholine)	0.35 (0.23, 0.46) p <.0001	0.12 (-0.03, 0.27) p = 0.10	0.12 (-0.03, 0.22) p = 0.13	0.35 (0.23, 0.46) p <.0001	0.06 (-0.09, 0.21) p = 0.40	0.05 (-0.10, 0.20) p = 0.51	0.40 (0.26, 0.52) p <.0001	0.06 (-0.09, 0.21) p = 0.42	0.06 (-0.10, 0.21) p = 0.47
log$_{10}$(FeNO)	-0.23 (-0.35, -0.11) p = 0.0002	0.02 (-0.12, 0.16) p = 0.79	0.04 (-0.11, 0.19) p = 0.57	-0.23 (-0.35, -0.11) p = 0.0002	-0.07 (-0.21, 0.07) p = 0.32	-0.01 (-0.16, 0.14) p = 0.86	-0.27 (-0.40, -0.14) p <.0001	-0.05 (-0.19, 0.09) p = 0.49	-0.09 (-0.24, 0.06) p = 0.22

eTable 5. Canonical Correlation Analysis Between Spirometry Variables and Clinical Variables Using CLIC Baseline Data

CLIC Canonical Variate Pairs		
Standardized Coefficients		
	Variate Pair 1	Variate Pair 2	Variate Pair 3
Diary AM PEF % Predicted	0.15	1.19	0.99
Diary PM PEF % Predicted	0.12	-0.71	-1.75
Max BD Response (% Change in FEV_1)	-0.90	0.50	-0.04
$\log_2(PC_{20})$	0.30	0.51	0.56
Diary Symptoms (Cough and Wheeze)	0.06	0.26	-0.08
Diary Rescue Albuterol Use	0.25	-0.13	0.08
$\log_{10}($Exhaled NO$)$	0.06	0.15	0.06
ACQ Score	-0.07	-0.13	0.34
Prior Hospitalizations	-0.03	0.28	0.34

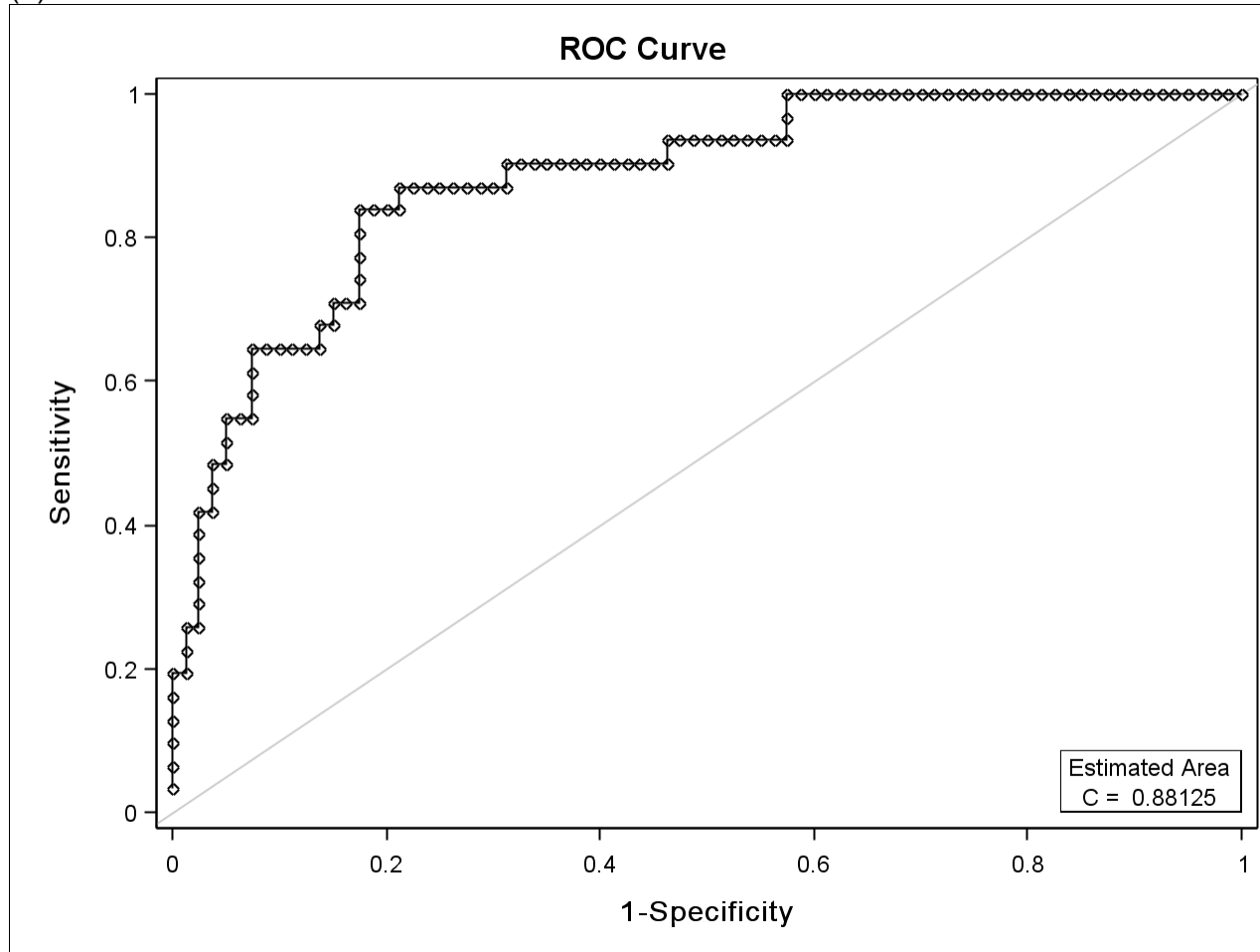|			
FEV$_1$ % Predicted	0.05	0.68	-1.11
FEF$_{25-75}$ % Predicted	1.07	-0.67	-0.05
FEV$_1$/FVC % Predicted	-0.17	0.71	1.19
Canonical Correlation	0.84 $p < 0.0001$	0.53 $p = 0.002$	0.50 $p = 0.01$

eTable 6. Canonical Correlation Analysis Between Spirometry Variables and Clinical Variables Using PACT Baseline Data

PACT Canonical Variate Pairs		
Standardized Coefficients		
	Variate Pair 1	Variate Pair 2	Variate Pair 3
Diary AM PEF % Predicted	0.64	0.26	0.29
Diary PM PEF % Predicted	-0.15	0.39	-0.42
Max BD Response (% Change in FEV_1)	-0.37	0.82	-0.03
$\log_2(PC_{20})$	0.39	0.07	0.53
Diary Symptoms (Cough and Wheeze)	0.17	0.29	-0.86
Diary Rescue Albuterol Use	-0.10	0.03	0.05
$\log_{10}$(Exhaled NO)	-0.02	0.20	0.62
ACQ Score	-0.32	-0.38	0.41
Prior Hospitalizations	0.10	-0.05	-0.17

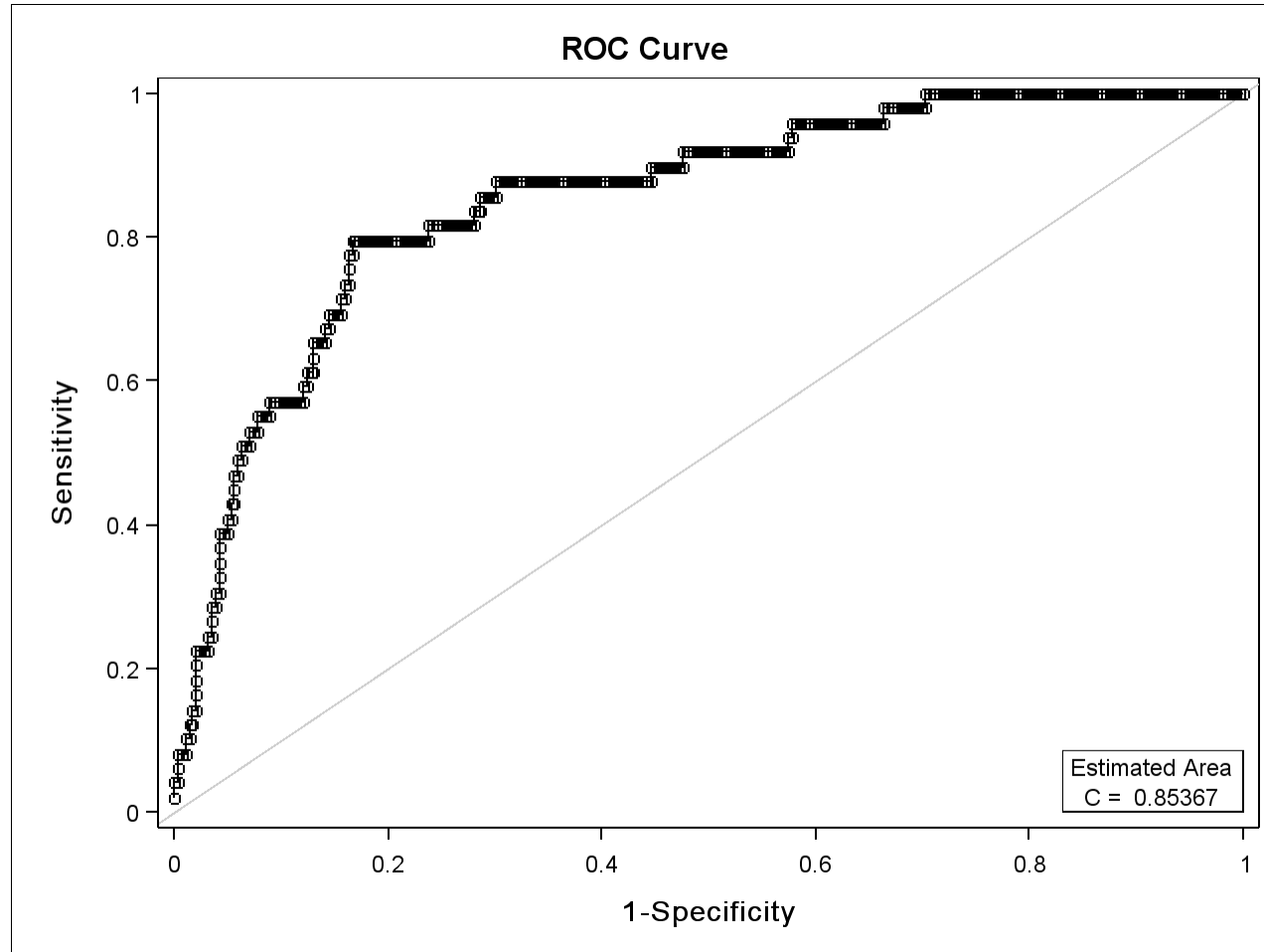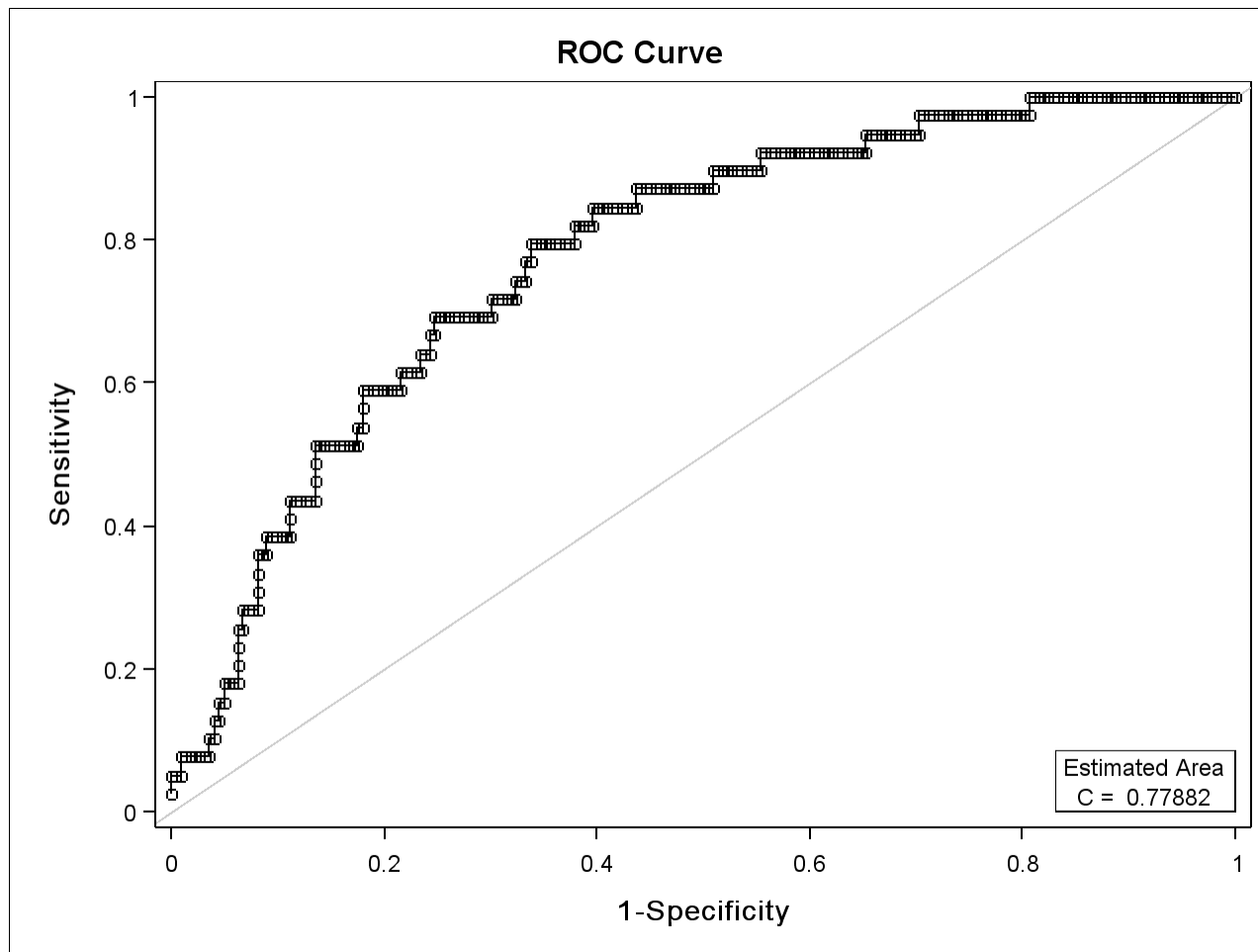|			
FEV$_1$ % Predicted	0.56	1.64	-0.27
FEF$_{25-75}$ % Predicted	-0.12	-2.08	2.44
FEV$_1$/FVC % Predicted	0.70	0.60	-2.28
Canonical Correlation	0.61 $p < 0.0001$	0.36 $p = 0.03$	0.20 $p = 0.47$

eFigure 1. Receiver Operator Characteristic (ROC) curves of FEF_{25-75} % predicted for bronchodilator responsiveness (BD) as 20% change in FEV_1 (a) and ROC curve of FEV_1/FVC % predicted for BD responsiveness as 20% change in FEV_1 (b). The inflection value for FEF_{25-75} is at 36% predicted and that for the FEV_1/FVC is at 79% predicted. (CLIC alone)

(a)

(b)

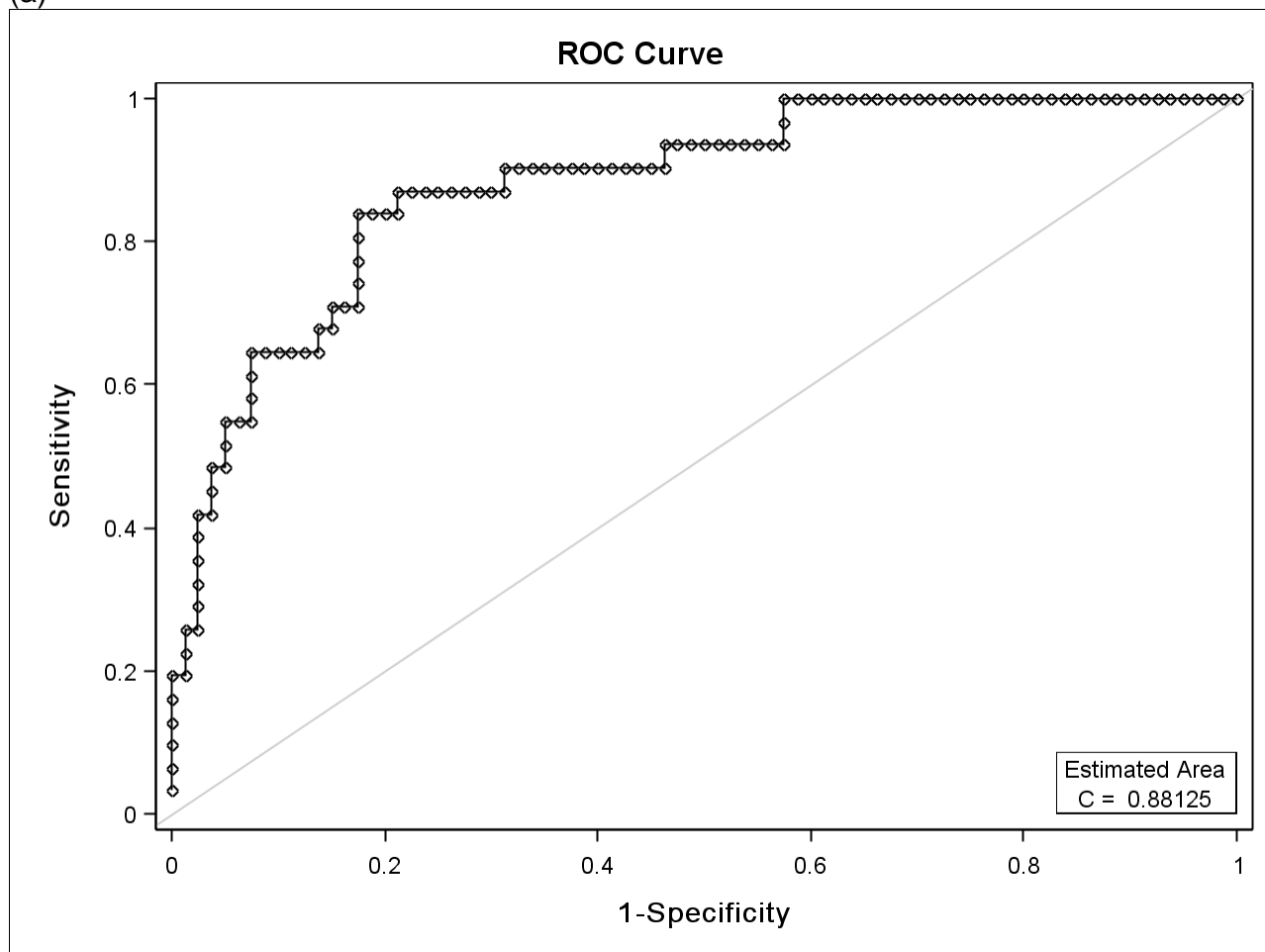ROC Curve

Estimated Area
C = 0.73566

eFigure 2. Receiver Operator Characteristic (ROC) curves of FEF_{25-75} % predicted for bronchodilator responsiveness (BD) as 20% change in FEV_1 (a) and ROC curve of FEV_1/FVC % predicted for BD responsiveness as 20% change in FEV_1 (b). The inflection value for FEF_{25-75} is at 50% predicted, while that for the FEV_1/FVC cannot be determined. (PACT alone)

(a)

ROC Curve

Estimated Area
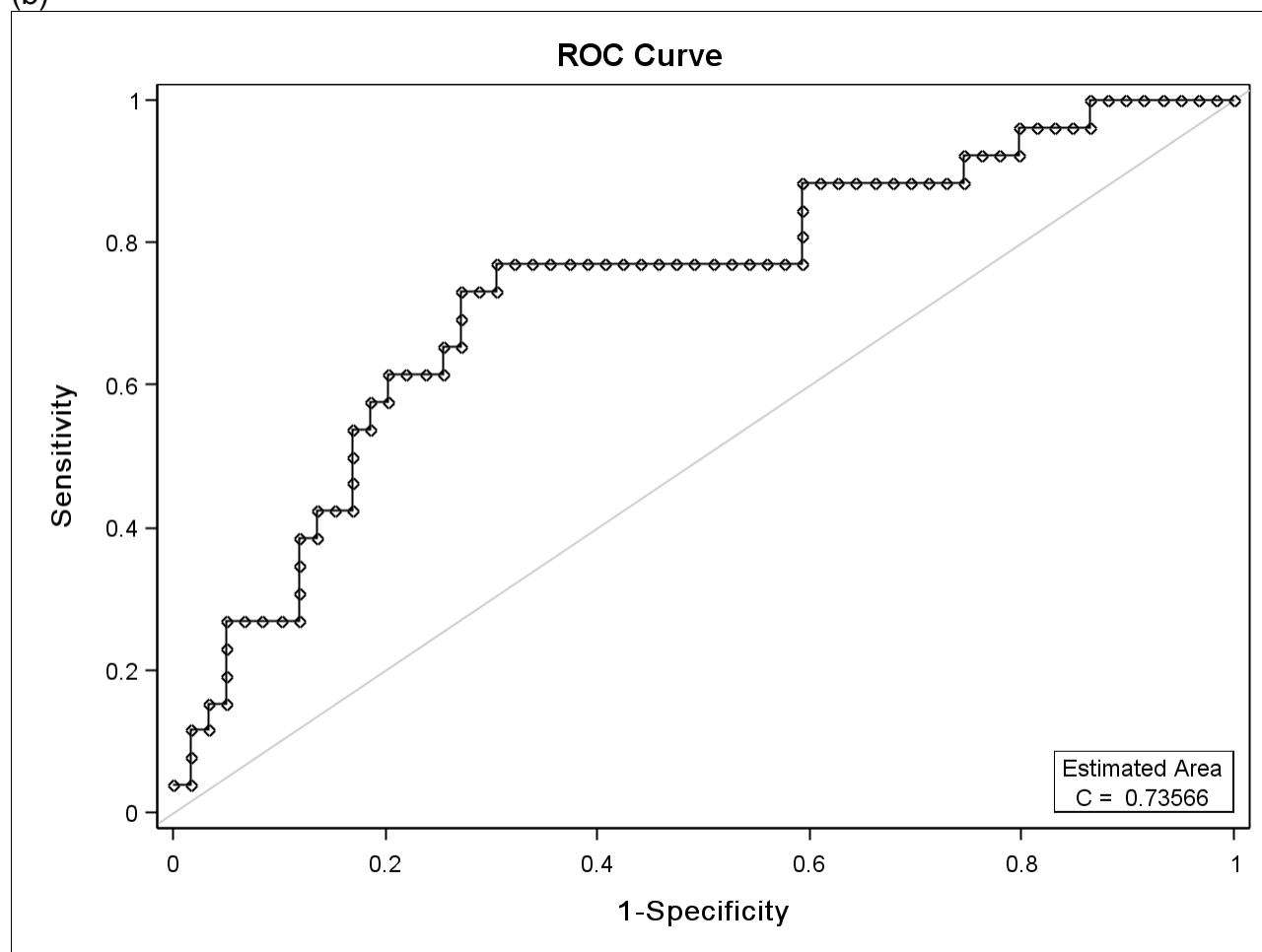C = 0.85367

(b)

ROC Curve

Estimated Area
C = 0.77882

eFigure 1.   Receiver Operator Characteristic (ROC) curves of FEF_{25-75} % predicted for bronchodilator responsiveness (BD) as 20% change in FEV_1 (a) and ROC curve of FEV_1/FVC % predicted for BD responsiveness as 20% change in FEV_1 (b).   The inflection value for FEF_{25-75} is at 36% predicted and that for the FEV_1/FVC is at 79% predicted. (CLIC alone)
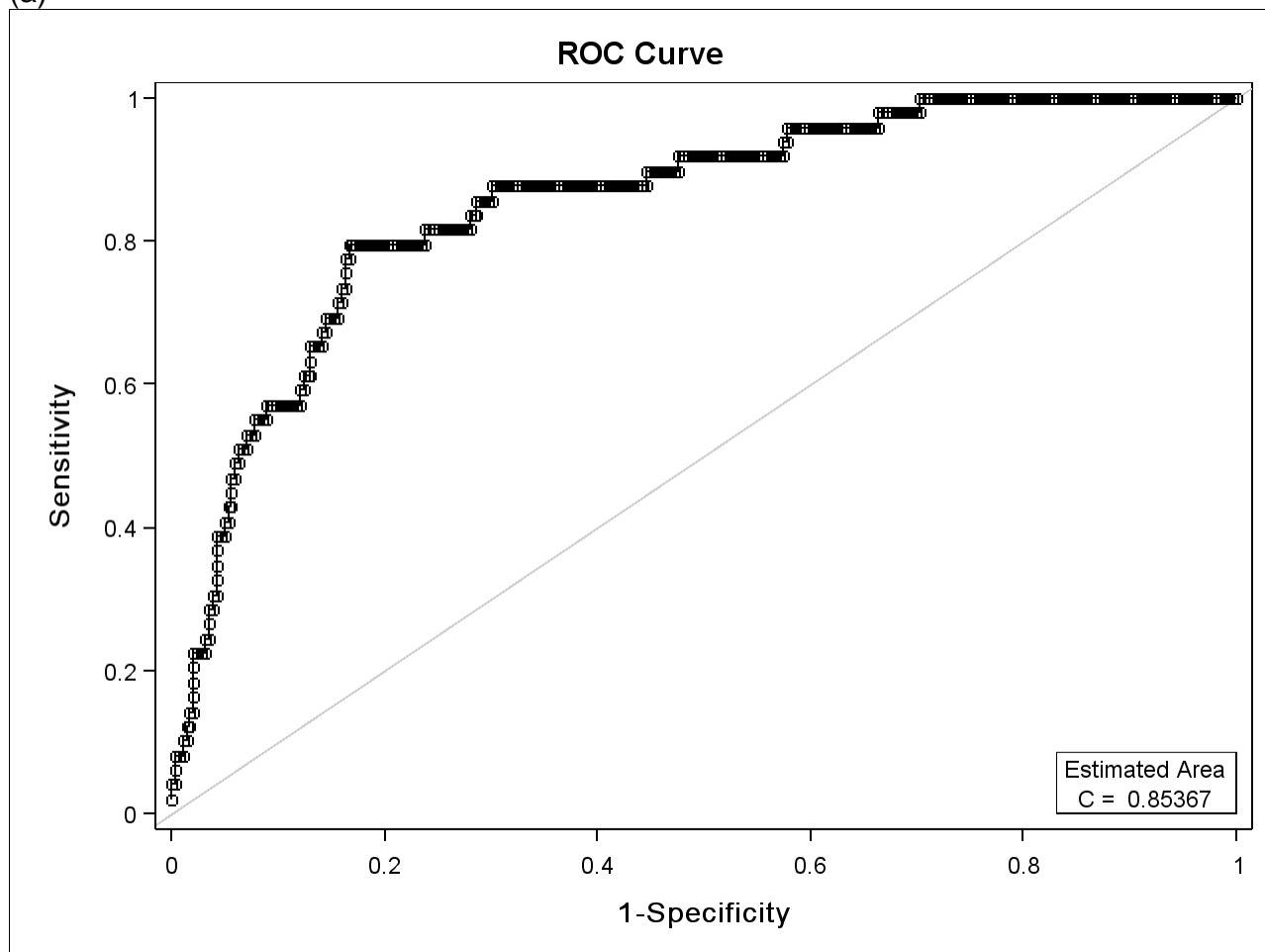
(a)

(b)

ROC Curve

Estimated Area
C = 0.73566

eFigure 2.   Receiver Operator Characteristic (ROC) curves of FEF$_{25\text{-}75}$ % predicted for bronchodilator responsiveness (BD) as 20% change in FEV$_1$ (a) and ROC curve of FEV$_1$/FVC % predicted for BD responsiveness as 20% change in FEV$_1$ (b).   The inflection value for FEF$_{25\text{-}75}$ is at 50% predicted, while that for the FEV$_1$/FVC cannot be determined. (PACT alone)

(a)

(b)

ROC Curve

Sensitivity

1-Specificity

Estimated Area
C = 0.77882