

Appendix 1

Logistic regression results: model used to predict clinician scores

	OR	95% CI	
Administration mode			
Mode 1: paper (reference)	1	--	--
Mode 2: Patient-portal	0.587	0.439	0.786
Mode 3: IVR	0.451	0.340	0.599
Mode 4: SMS	0.523	0.389	0.703
Female	1.020	0.851	1.222
Age	1.010	1.004	1.015
Number of morbidities	1.054	0.956	1.163
Annual wellness visit	1.137	0.930	1.391
Percent in zip code in poverty	0.993	0.980	1.005
Marital status			
Single (reference)	1	--	--
Married/Partner/Civil union	1.096	0.874	1.374
Formerly married	1.208	0.915	1.594
Clinician ID			
Clinician A (reference)	1	--	--
Clinician B	0.341	0.379	3.079
Clinician C	0.455	0.049	4.221
Clinician D	0.350	0.014	8.665
Clinician E	0.871	0.103	7.385
Clinician F	0.408	0.049	3.404
Clinician G	0.369	0.044	3.088
Clinician H	0.636	0.076	5.312
Clinician I	0.279	0.034	2.313
Clinician J	0.745	0.077	7.227
Clinician K	0.402	0.040	4.023
Clinician L	0.344	0.041	2.878
Clinician M	0.495	0.058	4.201
Clinician N	0.500	0.060	4.151
Clinician O	0.333	0.038	2.942
Clinician P	0.587	0.066	5.221
Clinician Q	0.220	0.026	1.859
Clinician R	0.251	0.030	2.076

Clinician S	0.578	0.064	5.221
Clinician T	0.247	0.029	2.071
Clinician U	0.324	0.039	2.715
Clinician V	0.541	0.053	5.564
Clinician W	1.017	0.078	13.295
Clinician X	1.108	0.083	14.710
Clinician Y	0.190	0.022	1.659
Clinician Z	0.259	0.019	3.464
Constant	5.765	0.674	49.327

Appendix 2

Predicted CollaboRATE scores by clinician, adjusted for patient characteristics

Clinician	Mode 1: Paper		Mode 2: Patient-portal		Mode 3: IVR		Mode 4: SMS	
	Score	95% CI	Score	95% CI	Score	95% CI	Score	95% CI
1	91%	87-94%	84%	79-90%	79%	73-86%	82%	76-88%
2	82%	77-87%	72%	65-78%	64%	57-72%	68%	61-75%
3	80%	75-86%	70%	63-77%	62%	54-70%	66%	58-74%
4	88%	84-92%	80%	75-85%	74%	67-80%	77%	71-83%
5	76%	69-82%	63%	57-70%	55%	48-62%	59%	52-66%
6	79%	73-86%	68%	61-76%	60%	52-69%	64%	56-73%
7	85%	80-89%	76%	71-81%	69%	63-75%	72%	67-78%
8	74%	68-80%	61%	55-67%	53%	46-59%	57%	50-63%

Appendix 3

Administration mode and patient demographic effects on CollaboRATE top score

	Odds ratio	95% Confidence interval	
Administration modes			
Paper mode (reference)	1	--	--
Patient-portal mode	0.602	0.452	0.802
IVR mode	0.447	0.338	0.590
SMS mode	0.505	0.378	0.674
Tablet/Mail mode *	--	--	--
Patient characteristics			
Age	1.010	1.005	1.016
Female	1.008	0.844	1.204
Number of health conditions	1.062	0.964	1.169
Annual visit	1.167	0.957	1.423
Aggregate percent in poverty	0.992	0.98	1.005
Never married (reference)	1	--	--
Married/Civil union/Partner	1.084	0.867	1.357
Formerly married	1.205	0.915	1.586

* Demographic data were unavailable for tablet/mail mode participants

Appendix 4

Administration mode and patient demographic effects on CollaboRATE top score: first response per patient sensitivity analysis

	Odds ratio	95% Confidence interval	
Administration modes			
Paper mode (reference)	1	--	--
Patient-portal mode	0.569	0.375	0.863
IVR mode	0.414	0.258	0.665
SMS mode	0.502	0.277	0.913
Tablet/Mail mode *	--	--	--
Patient characteristics			
Age	1.012	1.000	1.025
Female	1.190	0.839	1.689
Number of health conditions	1.171	0.980	1.398
Annual visit	1.651	1.149	2.372
Aggregate percent in poverty	0.977	0.954	1.000
Never married (reference)	1	--	--
Married/Civil union/Partner	1.154	0.734	1.815
Formerly married	1.148	0.657	2.005

* Demographic data were unavailable for tablet/mail mode participants

Appendix 5

Estimated costs for each mode

	Mode 1	Mode 2	Mode 3	Mode 4	Mode 5	
	In-clinic Paper	Patient-portal	IVR	SMS	Tablet	Mail-in Paper
Set-up costs						
document development	\$286	\$486	\$428	\$286	\$143	\$286
programming and testing	\$286	\$515	\$1,686	\$1,686	\$-	\$-
project management: Ramp-up period	\$234	\$234	\$234	\$234	\$234	\$234
Field costs						
vendor costs	\$-	\$-	\$127	\$165	\$-	\$-
EHR costs	\$-	\$-	\$-	\$-	\$-	\$-
supplies	\$492	\$-	\$-	\$-	\$597	\$167
technical support	\$-	\$2,036	\$2,202	\$2,202	\$-	\$-
Personnel	\$5,825	\$208	\$202	\$175	\$18,113	\$54
Data analysis costs						
Data entry	\$966	\$-	\$-	\$-	\$-	\$123
Report Generation/ data collection	\$3,038	\$3,038	\$3,038	\$3,038	\$-	\$-
Total	\$11,125	\$6,516	\$7,916	\$7,785	\$19,086	\$863
total responses	541	1019	893	757	1142	69
Cost per unique response	\$20.56	\$6.39	\$8.87	\$10.28	\$16.71	\$12.51
Variable cost per unique response (excluding set-up and research costs)	\$13.46	\$2.20	\$2.83	\$3.36	\$16.38	\$4.97