

**Should measures of patient experience in primary care be adjusted for case mix?
Evidence from the English General Practice Patient Survey.**

Paddison et al (corresponding author: Roland).

Appendix: Supplementary tables and figures

Appendix Table A1. Practice-level and patient-level means for 13 patient experience items (including two composite measures)

General Practice Patient Survey question	Practice level				Patient level	
	Mean	Standard deviation	Minimum	Maximum	Mean	Mean
Helpfulness of receptionists	Q4	83.5	6.6	0.0	100.0	83.4
Getting through on the phone	Q5a	69.5	13.4	22.1	100.0	69.0
Ability to get urgent appointment	Q7	84.8	10.7	0.0	100.0	85.1
Ability to book ahead	Q10	77.6	15.4	0.0	100.0	77.8
Evaluation of surgery waiting time	Q14	82.7	10.2	30.2	100.0	82.7
Seeing the doctor you prefer	Q16	76.9	11.4	30.4	100.0	76.6
Satisfaction with opening hours	Q17	79.7	5.5	50.0	100.0	79.7
Doctor patient communication (composite measure)	Q20	83.5	5.7	46.4	100.0	83.7
Confidence and trust in doctor	Q21	84.1	6.6	49.8	100.0	84.3
Nurse patient communication (composite measure)	Q24	87.0	4.5	58.3	100.0	87.3
Overall satisfaction	Q25	86.0	5.9	0.0	100.0	86.1
Did doctor or nurse agree a care plan?	Q28	87.6	5.7	0.0	100.0	88.1
Has care plan helped improve care?	Q29	73.3	6.1	0.0	100.0	73.7

Appendix Table A2. Standardized coefficients for case-mix adjusters age, gender, ethnicity, deprivation, and self-reported health (continued overleaf)

General Practice Patient Survey question	Gender (reference group female)	Age (reference group 55-64)										Ethnicity (reference group White)				
	Male	18-24	25-34	35-44	45-54	65-74	75-84	85 or older	Mixed	Black	Asian	Chinese	Other			
Helpfulness of receptionists	0.14	-10.37	-8.66	-5.58	-3.71	4.95	8.29	8.75	0.31	2.92	-3.75	-4.01	-0.55			
Getting through on the phone	0.83	-7.41	-5.35	-4.00	-3.02	3.44	5.91	6.66	0.45	1.31	-2.89	-3.22	-0.02			
Ability to get urgent appointment	-0.82	-7.57	-4.11	-2.52	-3.20	3.81	5.82	6.19	-2.08	-0.85	-3.62	-0.35	-1.26			
Ability to book ahead	2.69	-7.63	-4.41	-3.66	-3.17	3.33	6.11	7.40	-0.82	-0.73	-5.57	-0.08	-1.14			
Evaluation of surgery waiting time	1.61	-12.15	-10.11	-8.00	-4.26	4.02	6.39	6.24	-1.63	-0.48	-7.17	-6.57	-2.42			
Seeing the doctor you prefer	1.99	-15.20	-13.50	-10.81	-6.11	5.09	7.49	6.91	-3.05	-4.93	-5.46	-8.62	-3.96			
Satisfaction with opening hours	-1.45	-8.74	-8.06	-5.83	-4.77	5.95	7.42	5.93	0.11	2.67	-2.55	-6.40	-0.38			
Doctor patient communication	-0.23	-8.94	-8.01	-4.79	-2.70	2.89	3.87	3.29	-1.58	0.04	-2.79	-6.59	-2.74			
Confidence and trust in doctor	0.74	-10.45	-9.61	-4.98	-2.73	3.49	5.17	4.91	-1.99	-0.43	-1.85	-8.41	-3.86			
Nurse patient communication	-0.20	-5.09	-3.95	-2.35	-1.60	1.96	2.95	2.81	-1.92	-1.29	-5.07	-8.04	-3.10			
Overall satisfaction	-0.22	-9.92	-8.87	-5.46	-3.35	3.87	5.39	4.52	-1.09	1.16	-4.19	-7.36	-3.09			
Did doctor or nurse agree a care plan?	0.56	-12.99	-11.10	-6.07	-3.27	2.88	3.18	2.40	-1.67	0.58	-3.39	-1.81	-2.29			
Has care plan helped improve care?	1.17	-14.95	-12.61	-7.63	-4.26	4.53	5.03	3.50	-0.84	0.03	-4.46	-0.66	-1.44			

Appendix Table A2. (continued) Standardized coefficients for case-mix adjusters age, gender, ethnicity, deprivation, and self-reported health

General Practice Patient Survey question	Deprivation (reference group 5, most deprived)				Self-reported health (reference group excellent)			Practice random effects variance	Residual variance	
	1	2	3	4	Very good	Good	Fair			Poor
Helpfulness of receptionists	-2.10	-1.76	-1.50	-1.09	-3.06	-5.00	-5.92	-6.30	34.83	405.58
Getting through on the phone	-2.48	-2.08	-1.70	-1.21	-4.46	-7.75	-9.74	-9.89	172.45	642.49
Ability to get urgent appointment	0.62	0.43	0.15	-0.18	-2.28	-4.56	-6.11	-6.51	94.29	1,150.86
Ability to book ahead	1.32	0.77	0.71	0.17	-2.67	-5.45	-7.52	-8.07	213.65	1,488.30
Evaluation of surgery waiting time	-0.20	-0.09	-0.07	-0.15	-2.48	-4.98	-7.40	-9.83	82.27	759.01
Seeing the doctor you prefer	0.16	0.48	0.35	0.23	-2.95	-4.76	-5.15	-4.23	111.09	753.32
Satisfaction with opening hours	-3.65	-2.98	-2.53	-1.63	-3.80	-6.43	-7.11	-6.61	24.48	496.96
Doctor patient communication	-0.65	-0.53	-0.52	-0.36	-3.75	-7.11	-8.69	-9.20	23.56	322.17
Confidence and trust in doctor	-0.50	-0.54	-0.64	-0.49	-4.02	-7.86	-10.20	-11.25	31.83	649.91
Nurse patient communication	-0.97	-0.82	-0.70	-0.48	-3.39	-6.44	-7.57	-7.54	12.88	243.52
Overall satisfaction	-1.42	-1.18	-1.05	-0.77	-3.36	-6.56	-8.52	-10.02	23.82	328.04
Did doctor or nurse agree a care plan?	-0.32	-0.21	-0.24	-0.50	-2.61	-5.03	-8.57	-12.04	9.81	1,014.85
Has care plan helped improve care?	-2.44	-1.79	-1.50	-1.05	-7.09	-11.47	-15.43	-17.85	15.47	949.56

Appendix Figure A1. Boxplot showing impact of case-mix adjustment on change in percentile ranks

Whiskers show 1.5 Inter-quartile ranges (IQR) beyond the actual IQR;

Cases outside the IQR by at least 3 IQR are shown as *.

