

## Appendix

DCEs have a theoretical basis rooted in random utility theory (RUT), which proposes that an individual's "utility",  $U_{ni}$  of a choice alternative can be broken down into two components: a systematic, explainable component  $V_{ni}$  that an individual  $n$  associates with alternative  $i$ , and a random error component  $\varepsilon_{in}$  for individual  $n$  associated with alternative  $i$ , i.e.  $U_{ni} = V_{ni} + \varepsilon_{ni}$ . [23, 35] In this study, the utility estimation for a given alternative is given by the following equation;

$$U_{ni} = V_{ni} + \varepsilon_{ni} = \beta_1 \text{pay for performance} + \beta_2 \text{suggested alternatives} + \beta_3 \text{accountable justification} + \beta_4 \text{peer comparison} + \beta_5 \text{additional time} + \varepsilon_{ni}$$

where  $U$  is the utility derived from choosing a specific treatment,  $V$  is the observed utility derived from the  $\beta_{1-5}$  parameter estimates, and  $\varepsilon$  represents the unobservable error term.

The multinomial logit is traditionally used for analysis of DCE data but is limited by its assumption of independence of irrelevant alternatives (IIA), which implies that the unobserved portion of utility for one alternative has a fixed relationship to the unobserved portion of utility for another alternative. [36] While IIA may hold true for some situations, it is a fairly restrictive assumption and thus the DCE data were analyzed using mixed logit to verify the robustness of findings.

Mixed logit models allow for individual-specific attribute coefficients, accounting for preference heterogeneity among different decision makers and allowing flexible substitution patterns, which more realistically represents a choice situation the decision-maker faces. [36] In addition, the mixed logit model adjusts the standard errors of the utility estimates for each individual to account for repeated choices made by the same individual.

**eTable 1: Pilot Study Mixed Logit Regression Results**

Pilot Study	OR	[95% CI]	Coefficient	Std. Err.	[95% CI]	p-value	z-score
<b>Unexposed to BEARI</b>							
Pay for Performance	1.004	[1.002, 1.006]	0.004	0.001	[0.002, 0.006]	0.000	3.900
Suggested Alternatives	2.754	[1.424, 5.327]	1.013	0.337	[0.354, 1.673]	0.003	3.010
Accountable Justifications	0.684	[0.469, 0.998]	-0.379	0.193	[-0.756, -0.002]	0.049	-1.970
Peer Comparison	0.995	[0.693, 1.428]	-0.005	0.184	[-0.367, 0.356]	0.976	-0.030
Additional Time	1.175	[1.079, 1.279]	0.161	0.043	[0.076, 0.246]	0.000	3.720
<b>Exposed to BEARI</b>							
Pay for Performance	1.008	[1.004, 1.011]	0.008	0.002	[0.004, 0.011]	0.000	4.000
Suggested Alternatives	2.072	[1.131, 3.796]	0.729	0.309	[0.123, 1.334]	0.018	2.360
Accountable Justifications	1.794	[0.667, 4.828]	0.585	0.505	[-0.405, 1.574]	0.247	1.160
Peer Comparison	1.641	[0.798, 3.372]	0.495	0.368	[-0.225, 1.216]	0.178	1.350
Additional Time	1.103	[0.963, 1.264]	0.098	0.693	[-0.037, 0.234]	0.156	1.420

**eTable 2: Mixed Logit Regression Results by BEARI Exposure Group**

	OR	[95% CI]	Coefficient	Std. Err.	[95% CI]	p-value	p-value*
<b>Exposure Group: SA, JA, PC (n=26)</b>							<b>0.004</b>
Pay for Performance	1.008	[1.004, 1.012]	0.008	0.002	[0.004, 0.012]	0.000	
Suggested Alternatives	1.760	[0.951, 3.258]	0.565	0.314	[-0.05, 1.181]	0.072	
Accountable Justifications	1.713	[0.74, 3.968]	0.538	0.428	[-0.301, 1.378]	0.209	
Peer Comparison	1.138	[0.618, 2.096]	0.129	0.312	[-0.481, 0.74]	0.678	
Additional Time	1.219	[1.079, 1.378]	0.198	0.062	[0.076, 0.321]	0.001	
<b>Exposure Group: SA, JA (n=35)</b>							<b>0.004</b>
Pay for Performance	1.006	[1.003, 1.009]	0.006	0.001	[0.003, 0.009]	0.000	
Suggested Alternatives	2.015	[1.197, 3.392]	0.701	0.266	[0.18, 1.221]	0.008	
Accountable Justifications	1.217	[0.781, 1.898]	0.197	0.227	[-0.247, 0.641]	0.385	
Peer Comparison	1.921	[1.137, 3.246]	0.653	0.268	[0.128, 1.178]	0.015	
Additional Time	1.223	[1.075, 1.393]	0.202	0.066	[0.072, 0.331]	0.002	
<b>Exposure Group: SA, PC (n=32)</b>							<b>&lt;0.001</b>
Pay for Performance	1.008	[1.004, 1.011]	0.008	0.002	[0.004, 0.011]	0.000	
Suggested Alternatives	5.520	[2.221, 13.716]	1.708	0.464	[0.798, 2.619]	0.000	
Accountable Justifications	0.482	[0.198, 1.177]	-0.729	0.455	[-1.622, 0.163]	0.109	
Peer Comparison	1.706	[0.797, 3.655]	0.534	0.389	[-0.227, 1.296]	0.169	
Additional Time	1.167	[0.989, 1.377]	0.154	0.084	[-0.011, 0.32]	0.068	
<b>Exposure Group: JA, PC (n=23)</b>							<b>&lt;0.001</b>
Pay for Performance	1.006	[1.003, 1.009]	0.006	0.002	[0.003, 0.009]	0.000	
Suggested Alternatives	2.153	[1.209, 3.834]	0.767	0.294	[0.19, 1.344]	0.009	
Accountable Justifications	2.187	[1.041, 4.595]	0.782	0.379	[0.04, 1.525]	0.039	
Peer Comparison	1.257	[0.753, 2.098]	0.229	0.261	[-0.284, 0.741]	0.382	
Additional Time	1.221	[1.003, 1.488]	0.200	0.101	[0.003, 0.398]	0.047	

SA: Suggested Alternatives, JA: Accountable Justification, PC: Peer Comparison, AT: Additional Time

Note: Prescribers were randomized to one of four main exposure groups consisting of more than one intervention during the BEARI trial.

\*p-value for significance across all coefficients for that sample

**eTable 3: Mixed Logit Regression Results by Intervention and with Interaction Terms**

Program Choice	OR	[95% CI]	Coefficient	Std. Err.	[95% CI]	p-value	z-score
<b>Suggested Alternatives</b>							
Pay for Performance	1.004	[1.004, 1.005]	0.004	0.000	[0.004, 0.005]	0.000	11.580
Suggested Alternatives	1.678	[1.462, 1.926]	0.518	0.070	[0.379, 0.656]	0.000	7.350
<b>SA Interacted Model</b>							
Pay for Performance	1.005	[1.004, 1.006]	0.005	0.000	[0.004, 0.006]	0.000	11.900
Suggested Alternatives	2.085	[1.584, 2.745]	0.735	0.140	[0.46, 1.01]	0.000	5.240
Accountable Justifications	1.047	[1.303, 1.427]	0.046	0.158	[0.265, 0.356]	-0.773	0.290
Peer Comparison	1.510	[1.168, 1.951]	0.412	0.131	[0.155, 0.668]	0.002	3.150
Additional Time	1.177	[1.109, 1.249]	0.163	0.030	[0.103, 0.222]	0.000	5.360
<b>Accountable Justifications</b>							
Pay for Performance	1.005	[1.004, 1.006]	0.005	0.000	[0.004, 0.006]	0.000	11.820
Accountable Justifications	1.077	[0.895, 1.295]	0.074	0.094	[-0.111, 0.258]	0.434	0.780
<b>JA Interacted Model</b>							
Pay for Performance	1.005	[1.004, 1.006]	0.005	0.000	[0.004, 0.006]	0.000	11.660
Suggested Alternatives	1.889	[1.474, 2.42]	0.636	0.126	[0.388, 0.884]	0.000	5.030
Accountable Justifications	1.428	[1.058, 1.928]	0.356	0.153	[0.057, 0.656]	0.020	2.330
Peer Comparison	1.420	[1.102, 1.83]	0.351	0.129	[0.097, 0.604]	0.007	2.710
Additional Time	1.164	[1.09, 1.244]	0.152	0.034	[0.086, 0.218]	0.000	4.500
<b>Peer Comparison</b>							
Pay for Performance	1.004	[1.004, 1.005]	0.004	0.000	[0.004, 0.005]	0.000	11.460
Peer Comparison	1.294	[1.128, 1.485]	0.258	0.070	[0.121, 0.395]	0.000	3.680
<b>PC Interacted Model</b>							
Pay for Performance	1.005	[1.004, 1.006]	0.005	0.000	[0.004, 0.006]	0.000	11.910
Suggested Alternatives	2.406	[1.754, 3.302]	0.878	0.161	[0.562, 1.195]	0.000	5.440
Accountable Justifications	1.061	[1.429, 1.609]	0.059	0.212	[0.357, 0.475]	-0.780	0.280
Peer Comparison	1.268	[0.918, 1.75]	0.237	0.165	[-0.085, 0.56]	0.150	1.440
Additional Time	1.173	[1.09, 1.264]	0.160	0.038	[0.086, 0.234]	0.000	4.240
<b>Additional Time</b>							
Pay for Performance	1.005	[1.004, 1.006]	0.005	0.000	[0.004, 0.006]	0.000	11.900
Additional Time	1.117	[1.079, 1.157]	0.111	0.018	[0.076, 0.146]	0.000	6.230

SA: Suggested Alternatives, JA: Accountable Justification, PC: Peer Comparison, AT: Additional Time  
 Note: Regression results are shown for each treatment group exposed to that same intervention, e.g. SA-exposed prescribers' preference for Suggested Alternatives followed by model results for SA interacted with each

intervention. There is not an interacted model for additional time since this was not an intervention in the BEARI trial.