

Patient Reported Outcome Measures (PROMs) in England

Update to reporting and case-mix adjusting hip and knee procedure data

Annex 2: Coefficients for hip replacement revision models

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Tables 2a – 2c below give the variables that were statistically significant at the 95% level from the first stage of the estimation process and their coefficients for predicting post operative (Q2) scores for the three hip replacement revision indicators.

EQ5D Index Casemix Adjustment Model (Revisions)			
Variable	Definition	Variable name in PROMs/HES data set	Coefficient
Q1 Score	pre operative eq5d index score	q1_EQ-5D_index	0.254
ethmixed	takes value 1 if ethnicity is 'mixed', 0 if not	dummy derived from 'ethnos'	0.058
ethother	takes value 1 if 'other', 0 if not	dummy derived from 'ethnos'	-0.251
deprivation	index of multiple deprivation 2010	imd04	-0.002
q2_assisted	takes value 1 if patient was assisted in filling in q2	q2_assisted	-0.068
q1_disability1	takes value 1 if patient has disability at Q1	q1_disability1	-0.066
circulation	takes value 1 if patient has ever had circulation problems	derived from 'circulation'	-0.087
depression	" depression	" depression	-0.147
q1_symptom_period2	takes value 1 if patient has experienced symptoms for 2 years, 0 if not	derived from q1_symptom_period	-0.053
q1_symptom_period3	takes value 1 if patient has experienced symptoms for 3 years, 0 if not	"	-0.095
q1_symptom_period4	takes value 1 if patient has experienced symptoms for 4 years, 0 if not	"	-0.088
mech_comp	takes value 1 if patient's primary diagnosis is 'mechanical complications'	diag_01 = T840, T841, T844	0.045
_cons	constant	n/a	0.686

Table 2a: Descriptions and coefficients of variables included in the hip replacement revision EQ-5D index statistical prediction model for PROMs case-mix adjustment.

EQ5D VAS Casemix Adjustment Model (Revisions)			
Variable	Definition	Variable name in PROMs/HES data set	Coefficient
q1 score squared	pre operative VAS score squared	derived from q1_EQ-5D_health_scale	0.002
sex	female = 1 male = 0	dummy derived from 'sex'	0.504
ethmixed	takes value 1 if ethnicity is 'mixed', 0 if not	dummy derived from 'ethnos'	6.506
deprivation	index of multiple deprivation 2010	imd04	-0.131
q2_assisted	takes value 1 if patient was assisted in filling in q2	q2_assisted	-4.022
q1_disability1	takes value 1 if patient has disability at Q1	q1_disability1	-5.247
heart_disease	takes value 1 if patient has heart disease	derived from 'heart_disease'	-2.494
circulation	takes value 1 if patient has ever had circulation problems	derived from 'circulation'	-4.948
lung_disease	" lung disease	"	-3.406
cancer	" cancer	"	-3.291
depression	" depression	"	-6.948
q1_symptom_period3	takes value 1 if patient has experienced symptoms for 3 years, 0 if not	derived from q1_symptom period	-4.319
_cons	constant	n/a	66.722

Table 2b: Descriptions and coefficients of variables included in the hip replacement revision EQ-5D Visual Analogue Scale statistical prediction model for PROMs case-mix adjustment.

Oxford Score Casemix Adjustment Model (Revisions)			
Variable	Definition	Variable name in PROMs/HES data set	Coefficient
Q1 Score	pre-operative oxford hip score	hr_q1_score	0.634
Q1 Score squared	pre-operative oxford hip score squared	derived from 'hr_q1_score'	-0.006
deprivation	index of multiple deprivation 2010	imd04	-0.074
q2_assisted	takes value 1 if patient was assisted in filling in q2	q2_assisted	-1.464
q1_disability1	takes value 1 if patient has disability at Q1	q1_disability1	-3.298
circulation	takes value 1 if patient has ever had circulation problems	derived from 'circulation'	-2.741
liver_disease	" liver disease	"	-5.804
cancer	" cancer	"	1.627
depression	" depression	"	-2.511
q1_symptom_period 2	takes value 1 if patient has experienced symptoms for 2 years, 0 if not	derived from q1_symptom_period	-2.284
q1_symptom_period 3	takes value 1 if patient has experienced symptoms for 3 years, 0 if not	"	-3.797
q1_symptom_period 4	takes value 1 if patient has experienced symptoms for 4 years, 0 if not	"	-3.724
mech_comp	takes value 1 if patient's primary diagnosis is 'mechanical complications'	diag_01 = T840, T841, T844	1.682
_cons	constant	n/a	28.391

Table 2c: Descriptions and coefficients of variables included in the hip replacement revision Oxford Score statistical prediction model for PROMs case-mix adjustment.