Patient Reported Outcome Measures (PROMs) in England

Update to reporting and case-mix adjusting hip and knee procedure data
Annex 4: Coefficients for knee replacement revision models

Annex 4: Coefficients for Knee Replacement Revision models

Tables 4a – 4c 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 knee replacement revision indicators.

EQ5D Index Casemix Adjustment Model (Revisions)			
Variable	**Definition**	**Variable name in PROMs/HES data set**	**Coefficient**
q1_eq5d	pre-operative eq5d index score	q1_eq5d_index	0.276
startage	age at start of episode	startage	0.005
sex	female = 1 male = 0	dummy derived from 'sex'	0.040
imd04	index of multiple deprivation 2010	imd04	-0.002
q2_assisted	takes value 1 if patient was assisted in filling in q2	q2_assisted	-0.113
q1_disability1	takes value 1 if patient has disability at Q1	q1_disability1	-0.106
lung disease	takes value 1 if patient has ever had lung disease	derived from lung disease	-0.053
cancer	" cancer	" cancer	-0.011
depression	" depression	" depression	-0.148
q1_symptom_period2	takes value 1 if patient has experienced symptoms for 2 years, 0 if not	derived from q1_symptom_period	-0.063
q1_symptom_period3	takes value 1 if patient has experienced symptoms for 3 years, 0 if not	"	-0.062
q1_symptom_period4	takes value 1 if patient has experienced symptoms for 4 years, 0 if not	"	-0.063
mech comp	takes value 1 if patient's primary diagnosis is 'mechanical complications'	diag_01 = T840, T841, T844	0.041
_cons	constant	n/a	0.331

Table 4a: Descriptions and coefficients of variables included in the knee 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**
imd04	index of multiple deprivation 2010	imd04	-0.149
q2_assisted	takes value 1 if patient was assisted in filling in q2	q1_assisted	-10.678
q1_disability1	takes value 1 if patient has disability at Q1	q1_disability1	-10.219
heart_disease	takes value 1 if patient has ever had heart disease	derived from 'heart_disease'	-4.271
lung_disease	" lung disease	" lung disease	-5.108
diabetes	" diabetes	" diabetes	-3.293
depression	" depression	" depression	-12.839
q1_symptom_period2	takes value 1 if patient has experienced symptoms for 2 years, 0 if not	derived from q1_symptom_period	-1.698
mech_comp	takes value 1 if patient's primary diagnosis is 'mechanical complications'	diag_01 = T840, T841, T844	3.398
_cons	constant	n/a	77.537

Table 4b: Descriptions and coefficients of variables included in the knee 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**
kr_q1_score	pre-operative oxford knee score	kr_q1_score	0.827
q1_score_sq	pre-operative oxford knee score squared	derived from 'kr_q1_score'	-0.008
startage	age at start of episode	startage	0.725
agesq	age at start of episode squared	derived from 'startage'	-0.004
sex	female = 1 male = 0	dummy derived from 'sex'	1.531
ethmixed	take value 1 if ethnicity is mixed	ethmixed	-2.896
ethasian	takes value 1 if asian, 0 if not	dummy derived from 'ethnos'	-4.142
imd04	index of multiple deprivation 2010	imd04	-0.090
q2_assisted	takes value 1 if patient was assisted in filling in q2	q2_assisted	-2.885
q1_disability1	takes value 1 if patient has disability at Q1	q1_disability1	-3.908
depression	takes value 1 if patient has ever had depression	derived from 'depression'	-2.633
q1_symptom_period2	takes value 1 if patient has experienced symptoms for 2 years, 0 if not	derived from q1_symptom_period	-4.215
q1_symptom_period3	takes value 1 if patient has experienced symptoms for 3 years, 0 if not	"	-3.451
q1_symptom_period4	takes value 1 if patient has experienced symptoms for 4 years, 0 if not	"	-3.654
coxarthrosis	takes value 1 if patient's primary diagnosis is 'coxarthrosis'	diag_01 = M160,M161,M162,M163,M165,M167,M169	3.064
mech_comp	takes value 1 if patient's primary diagnosis is 'mechanical complications'	diag_01 = T840, T841, T844	3.092
_cons	constant	n/a	-6.106

Table 4c: Descriptions and coefficients of variables included in the knee replacement revision Oxford Score statistical prediction model for PROMs case-mix adjustment.