

## **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.

<b>EQ5D Index Casemix Adjustment Model (Revisions)</b>			
<b>Variable</b>	<b>Definition</b>	<b>Variable name in PROMs/HES data set</b>	<b>Coefficient</b>
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.

<b>EQ5D VAS Casemix Adjustment Model (Revisions)</b>			
<b>Variable</b>	<b>Definition</b>	<b>Variable name in PROMs/HES data set</b>	<b>Coefficient</b>
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_period 2	takes value 1 if patient has experienced symptoms for 2 years, 0 if not	derived from q1_symptom_period	-4.215
q1_symptom_period 3	takes value 1 if patient has experienced symptoms for 3 years, 0 if not	"	-3.451
q1_symptom_period 4	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.