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Table SI. Comparison of models: measures of fit

No. components	5-D itch model		WI-NRS model		
	2	3	2	3	4
AIC	197.21	195.71	222.81	212.37	204.41
BIC	252.26	286.15	277.87	302.81	330.24
MAE	0.2223	0.2219	0.2288	0.2299	0.2230
RMSE	0.2836	0.2837	0.2907	0.2912	0.2861

AIC: Akaike Information Criterion, BIC: Bayesian Information Criterion, MAE: Mean Absolute Error.

RMSE: Root Mean Squared Error.

Table III. 5-D itch index mapping models: two and three component models

Component Variables	Two-components		Three-components (selected model)		
	EQ-5D (Comp 1)	EQ-5D (Comp 2)	EQ-5D (Comp 1)	EQ-5D (Comp 2)	EQ-5D (Comp 3)
5-D itch index	-0.012*	-0.014***	0.036*	-0.015***	-0.08
	(0.006)	(0.004)	(0.004)	(0.004)	(0.007)
Age/10	0.046	-0.004	-0.052*	-0.003	0.055
	(0.033)	(0.007)	(0.017)	(0.007)	(0.035)
Female	-0.093	-0.024	-0.294*	-0.031	-0.056
	(0.074)	(0.025)	(0.036)	(0.025)	(0.087)
Constant	0.170	0.934***	0.631*	0.946***	0.040
	(0.233)	(0.065)	(0.150)	(0.067)	(0.221)
Probability Variables	Prob. (Comp 1)		Prob. (Comp 1)	Prob. (Comp 2)	
5-D itch index	0.032		-0.177**	-0.065	
	(0.048)		(0.088)	(0.055)	
Diabetes	1.204***		0.856	-1.204***	
	(0.332)		(1.281)	(0.366)	
Years on dialysis/10	0.391		1.243*	-0.543	
	(0.284)		(0.636)	(0.343)	
Constant	-1.700***		-1.037	2.184***	
	(0.497)		1.250	(0.602)	
$\ln \sigma$	-1.307***	-1.837***	-3.081***	-1.859***	-1.2928***
Observations	377		377		

Notes: Robust standard errors in brackets. *, ** and *** significance at 10%, 5% and 1% levels respectively.

Table SIII. WI-NRS index final two-component mapping model.

Component	EQ-5D	EQ-5D
Variables	(Comp 1)	(Comp 2)
WI-NRS index	-0.008*	-0.013
	(0.005)	(0.012)
Age (by 10)	-0.001*	0.047
	(0.007)	(0.035)
Female	-0.040	-0.086
	(0.026)	(0.074)
Constant	0.800***	0.079
	(0.051)	(0.247)
Probability	Prob.	
Variables	(Comp 1)	
WI-NRS index	-0.011	
	(0.065)	
Diabetes	-1.194***	
	(0.349)	
Dialysis	-0.377	
	(0.273)	
Constant	1.282***	
	(0.341)	
$\ln \sigma$	-1.811***	-1.287***
Observations	377	

Notes: Robust standard errors in brackets. *, ** and *** significance at 10%, 5% and 1% levels respectively.