Supplementary material

Responsiveness and Minimal Important Change of the Family Reported Outcome Measure (FROM-16)

INDEX: Tables/figures included in the online resource

Table S1 Independent t-test for differences between male and female genders

	Mean		Mean difference	p-value *
	Male Mean(SD)	Female Mean(SD)		
Family members	(n=37)	(n=46)		
B_FROM	8.32 (6.88)	10.52 (6.71)	-2.20	0.146
F_FROM	7.24 (7.57)	8.80 (6.37)	-1.56	0.311
Patients	(n=40)	(n=43)		
B_EQ-5D	0.75 (0.22)	0.73 (0.23)	0.02	0.607
F_EQ-5D	0.82 (0.17)	0.78 (0.20)	0.04	0.376
B_EQ-5D-VAS	60.25 (23.72)	58.91 (22.19)	1.34	0.791
F_EQ-5D-VAS	69.83 (18.64)	67.74 (21.06)	2.09	0.636
B_GSQ	5.23 (2.81)	5.26 (2.17)	-0.03	0.956
F_GSQ	3.95 (2.33)	4.58 (2.54)	-0.63	0.242

*Significant at < 0.05 level.

Table S2. Classification Table MIC improvement

Classification Table MIC improvement						
Cut point	Sensitivity	Specificity	1-Sensitivity	1 - Specificity	(1-sensitivity] + [1-specificity])	
-17	1	0	0	1	1	
-15.5	1	0.011	0	0.989	0.989	
-14.5	1	0.023	0	0.977	0.977	
-12.5	1	0.034	0	0.966	0.966	
-10.5	1	0.046	0	0.954	0.954	
-8	1	0.069	0	0.931	0.931	
-5.5	0.923	0.08	0.077	0.92	0.997	
-4.5	0.923	0.092	0.077	0.908	0.985	
-3.5	0.923	0.138	0.077	0.862	0.939	
-2.5	0.923	0.161	0.077	0.839	0.916	
-1.5	0.846	0.241	0.154	0.759	0.913	
-0.5	0.846	0.322	0.154	0.678	0.832	
0.5	0.692	0.414	0.308	0.586	0.894	
1.5	0.692	0.563	0.308	0.437	0.745	
2.5	0.615	0.713	0.385	0.287	0.672	
3.5	0.462	0.782	0.538	0.218	0.756	
4.5	0.462	0.851	0.538	0.149	0.687	
5.5	0.462	0.931	0.538	0.069	0.607	
6.5	0.462	0.977	0.538	0.023	0.561	
7.5	0.308	0.977	0.692	0.023	0.715	
9	0.231	0.989	0.769	0.011	0.78	
10.5	0.154	1	0.846	0	0.846	
18.5	0.077	1	0.923	0	0.923	
27	0	1	1	0	1	

Table S3 Classification Table MIC improvement

Cut point	Sensitivity	Specificity	1-Sensitivity	1 - Specificity	(1-sensitivity] + [1-specificity])
			Classification Table MIC deterioration		
-27	1	0	0	1	1
-18.5	1	0.011	0	0.989	0.989
-10.5	1	0.022	0	0.978	0.978
-9	1	0.045	0	0.955	0.955
-7.5	1	0.067	0	0.933	0.933
-6.5	1	0.09	0	0.91	0.91
-5.5	1	0.135	0	0.865	0.865
-4.5	1	0.213	0	0.787	0.787
-3.5	1	0.281	0	0.719	0.719
-2.5	1	0.371	0	0.629	0.629
-1.5	0.909	0.517	0.091	0.483	0.574
-0.5	0.818	0.652	0.182	0.348	0.53
0.5	0.727	0.753	0.273	0.247	0.52
1.5	0.727	0.831	0.273	0.169	0.442
2.5	0.455	0.888	0.545	0.112	0.657
3.5	0.364	0.899	0.636	0.101	0.737
4.5	0.364	0.944	0.636	0.056	0.692
5.5	0.273	0.944	0.727	0.056	0.783
8	0.182	0.955	0.818	0.045	0.863
10.5	0.091	0.966	0.909	0.034	0.943
12.5	0.091	0.978	0.909	0.022	0.931
14.5	0	0.978	1	0.022	1.022
15.5	0	0.989	1	0.011	1.011
17	0	1	1	0	1

Table S4 Change in scores in patients and their family members across medical specialities

Medical specialty	Family Member/Partner					Patient				
	B_FROM	F_FROM	Mean diff FROM	ES	SRM	B_EQ-5D	F_EQ-5D	Mean diff EQ-5D	ES	SRM
Dermatology (n=33)	9.03	7.12	1.91	0.258	0.310	0.71	0.80	-0.09	-0.374	-0.552
Diabetes (n=29)	8.38	6.93	1.45	0.242	0.424	0.79	0.80	-0.01	-0.056	-0.125
Rheumatology (n=15)	11.40	11.27	0.13	0.022	0.024	0.68	0.76	-0.08	-0.489	-0.517
Haematology (n=5)	13.60	12.60	1.00	0.101	0.365	0.78	0.79	-0.01	-0.099	-0.447
IBD (n=1)	12.00	5.00	7.00			0.81	1.00	0.19		

IBD, Inflammatory Bowel Disease; ES, Effect Size; SRM, Standard Response Mean

Confidence Interval calculation of MIC$_{pred}$ and Adj_MIC $_{pred}$

We entered the output of the regression analysis into the Excel worksheet given by Terulin and colleagues in 2015 (Available at:

https://view.officeapps.live.com/op/view.aspx?src=https%3A%2F%2Fars.els-cdn.com%2Fcontent%2Fimage%2F1-s2.0-S0895435615001602-mmc2.xlsx&wdOrigin=BROWSELINK

to obtain confidence interval values for MIC pred and Adj MIC predict. Below are screenshots of Excel sheet for confidence interval calculation for MIC pred and Adj_MIC pred for Improvement and Deterioration.

Figure S1 Calculating 95% confidence intervals MICpred (Improvement)

1				
2	Prevalence (0-1)	0.130		
3	Change score (X) =	2.498		
4	Intercept (C) =	-2.423	se(C) =	0.418
5	Regression coeff (B)=	0.209	se(B) =	0.082
6			r(C-B) =	-0.648
7	ln(odds-post) =	-1.901	se(ln(odds)	0.325
8	odds(post)* =	0.149		
9	odds(pre) =	0.149		
10	ln(odds-pre)	-1.901		
11	ln(oddspost)lo =	-1.264	odds(post)l	0.283
12	ln(oddspost)hi =	-2.538	odds(post)l	0.079
13				
14	LR =	1.000		
15	LR(upper limit) =	1.891		
16	LR(lower limit) =	0.529		
17				
18	prob-post =	0.130		
19	prob-post(lo) =	0.220		
20	prob-post(hi) =	0.073		
21				
22	X for which LR=1	2.498		
23	X for which LR(upper limit)=1	-3.574		
24	X for which LR(lower limit)=1	6.241		
25				
26				

Template Terluin **MICpred(Imp)** ADJ_MICPred(imp) MICpred(Det) ADJ_MICpred(Det) ⊕

Figure S2 Calculating 95% confidence intervals Adj_MICpred (Improvement)

1				
2				
3	Prevalence (0-1)	0.130		
4	Change score (X) =	3.867		
5	Intercept (C) =	-2.423	se(C) =	0.418
6	Regression coeff (B)=	0.209	se(B) =	0.082
7			r(C-B) =	-0.648
8	ln(odds-post) =	-1.615	se(ln(odds)	0.322
9	odds(post)* =	0.199		
10	odds(pre) =	0.199		
11	ln(odds-pre)	-1.615		
12	ln(oddspost)lo =	-0.984	odds(post)	0.374
13	ln(oddspost)hi =	-2.245	odds(post)	0.106
14				
15	LR =	1.000		
16	LR(upper limit) =	1.879		
17	LR(lower limit) =	0.532		
18				
19	prob-post =	0.166		
20	prob-post(lo) =	0.272		
21	prob-post(hi) =	0.096		
22				
23	X for which LR=1	**3.867**		
24	X for which LR(upper limit)=1	-0.105		
25	X for which LR(lower limit)=1	9.469		
26				
27				
28				
29				

Template Terluin MICpred(Imp) **ADJ_MICPred(imp)** MICpred(Det) ADJ_MICpred(Det) ⊕

Figure S3 Calculating 95% confidence intervals MICpred (deterioration)

	B	E	G	H
	Prevalence (0-1)	0.110		
	Change score (X) =	0.7811		
	Intercept (C) =	-2.229	se(C) =	0.365
	Regression coeff (B)=	0.177	se(B) =	0.061
			r(C-B) =	-0.349
	ln(odds-post) =	-2.091	se(ln(odds)	0.351
	odds(post)* =	0.124		
	odds(pre) =	0.124		
	ln(odds-pre)	-2.091		
	ln(oddspost)lo =	-1.402	odds(post)	0.246
	ln(oddspost)hi =	-2.779	odds(post)	0.062
	LR =	1.000		
	LR(upper limit) =	1.991		
	LR(lower limit) =	0.502		
	prob-post =	0.110		
	prob-post(lo) =	0.197		
	prob-post(hi) =	0.058		
	X for which LR=1	0.781		
	X for which LR(upper limit)=1	-5.700		
	X for which LR(lower limit)=1	5.070		

Template Terluin | MICpred(Imp) | ADJ_MICPred(imp) | **MICpred(Det)** | ADJ_MICpred(Det)

Figure S4 Calculating 95% confidence intervals Adj_MICpred (deterioration)

	B	E	G	H
1	Prevalence (0-1)	0.110		
2	Change score (X) =	2.287		
3	Intercept (C) =	-2.229	se(C) =	0.365
4	Regression coeff (B)=	0.177	se(B) =	0.061
5			r(C-B) =	-0.349
6	ln(odds-post) =	-1.824	se(ln(oddspost)) =	0.342
7	odds(post)* =	0.161		
8	odds(pre) =	0.161		
9	ln(odds-pre)	-1.824		
10	ln(oddspost)lo =	-1.153	odds(post)lo =	0.316
11	ln(oddspost)hi =	-2.495	odds(post)hi =	0.082
12				
13	LR =	1.000		
14	LR(upper limit) =	1.956		
15	LR(lower limit) =	0.511		
16				
17	prob-post =	0.139		
18	prob-post(lo) =	0.240		
19	prob-post(hi) =	0.076		
20				
21	X for which LR=1	2.287		
22	X for which LR(upper limit)=1	-2.687		
23	X for which LR(lower limit)=1	7.594		

Template Terluin | MICpred(Imp) | ADJ_MICPred(imp) | MICpred(Det) | **ADJ_MICpred(Det)**

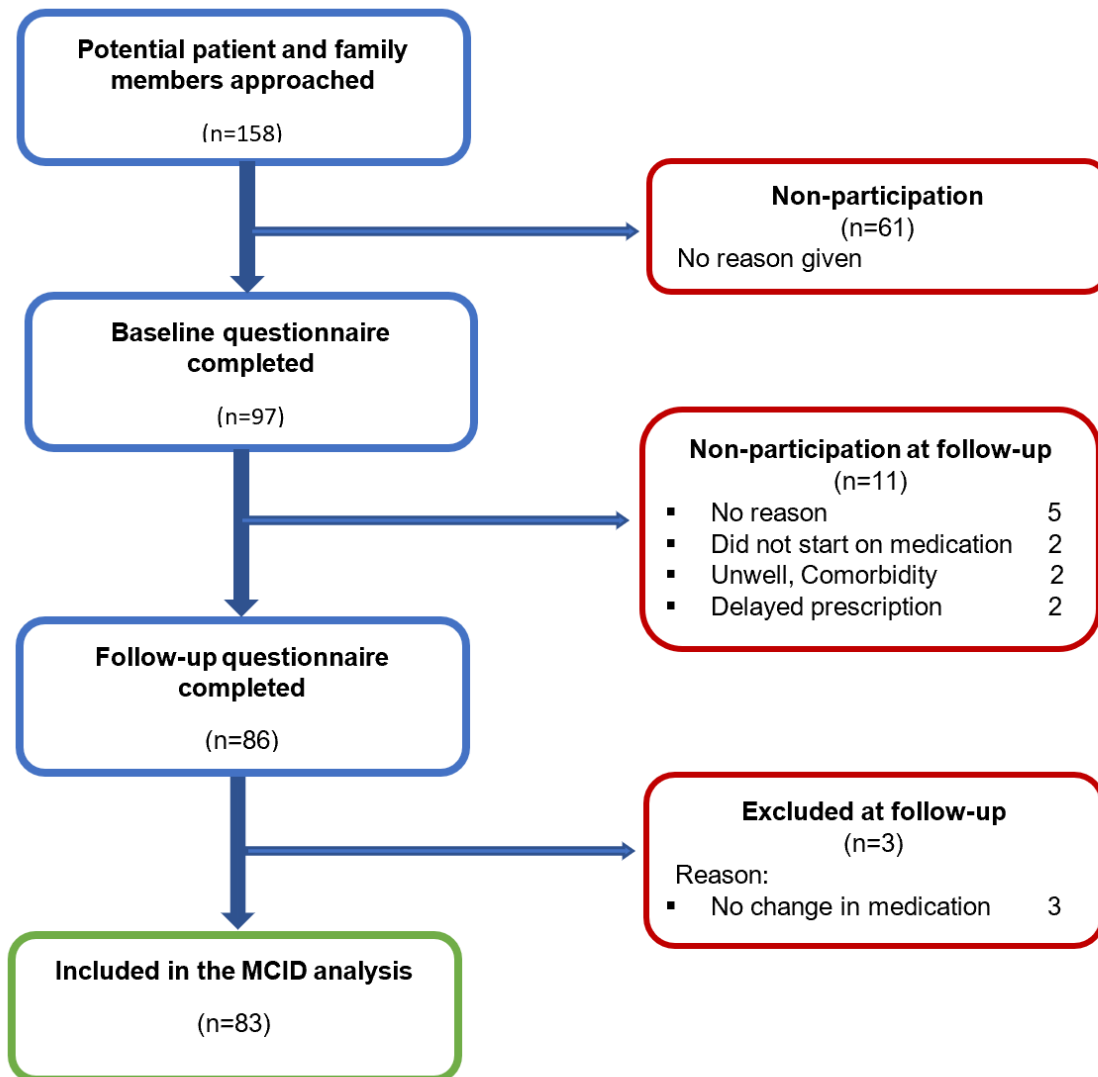***Figure S5:*** *Flow chart of recruitment: Baseline to follow-up (Responsiveness study)*

Figure S6: *Flow chart of recruitment: Baseline to follow-up (MIC study)*