Supplemental Table 1. Disease activity groups

CDAI Category at 6-Month visit	CDAI Category at 12-month Visit	Disease Activity Group N (%)
Remission/LDA	Remission/LDA	Sustained remission/LDA N=585 (37%)
M/HDA	Remission/LDA	Improving remission/LDA N=239 (15%)
Remission/LDA	M/HDA	Worsening M/HDA N=190 (12%)
M/HDA	M/HDA	Sustained M/HDA N=556 (35%)

Abbreviations: CDAI=Clinical Disease Activity Index; LDA=low disease activity; M/HDA=moderate or high disease activity.

Supplemental Table 2. Estimates of unadjusted and adjusted regression coefficients

Outcome	Unadjusted Regression coefficient[a] [95% CI]	Adjusted (for baseline outcome) Regression coefficient[a] [95% CI]
Δ mHAQ	0.067 [0.051, 0.084]	0.115 [0.102, 0.129]
Δ patient pain	7.062 [5.983, 8.141]	10.23 [9.360, 11.09]
Δ patient fatigue	5.617 [4.249, 6.984]	9.085 [7.932, 10.24]
	Odds Ratio[b] [95% CI]	**Odds Ratio[b] [95% CI]**
MCID mHAQ	0.849 [0.783, 0.919]	0.585 [0.525, 0.651]
MCID patient pain	0.665 [0.614, 0.720]	0.472 [0.425, 0.525]
MCID patient fatigue	0.752 [0.682, 0.829]	0.531 [0.467, 0.605]

Abbreviations: BMI=body mass index; CCP=cyclic citrullinated peptide; CDAI=Clinical Disease Activity Index; CI=confidence interval; LDA=low disease activity; MCID=minimum clinically important difference; mHAQ=modified Health Assessment Questionnaire; M/HDA=moderate or high disease activity; RA=rheumatoid arthritis; RF=rheumatoid factor; Δ=change in value.

[a]Linear regression coefficients provided are for disease activity as an ordinal variable with sustained remission/LDA as the reference. The estimates above correspond to the likelihood of improvement of the factor of interest for every step up (worsening) in disease activity from 'sustained remission/LDA' to 'improving remission/LDA', to 'worsening M/HDA', to 'sustained M/HDA'. For example, using the unadjusted estimates for patient pain, there was a reduction of 7.062 points in pain relief for each level above sustained remission/LDA. Of the factors tested in the adjusted analyses (gender, age, duration of RA, RF, CCP, insurance, baseline BMI, college education, work status, baseline CDAI [data not shown], only baseline value of the corresponding outcome [shown above] was found to change the estimates.

[b]Ordinal logistic regression odds ratios are provided for disease activity as an ordinal variable with sustained remission/LDA as the reference. The estimates above correspond to the likelihood of achieving the MCID of the factor of interest for every step up (worsening) in disease activity from 'sustained remission/LDA' to 'improving remission/LDA', to 'worsening M/HDA', to 'sustained M/HDA'. For

example, using the unadjusted estimates for MCID patient pain, this suggests the likelihood of achieving an MCID in pain is reduced by approximately 44% for each level above sustained remission/LDA. Of the factors tested in the adjusted analyses (gender, age, duration of RA, RF, CCP, insurance, baseline BMI, college education, work status, baseline CDAI [data not shown], only baseline value of the corresponding outcome [shown above] was found to change the estimates.

Supplemental Table 3. Odds Ratio [95% Wald confidence limits] for outcome vs disease activity group (ordinal value)[a]

	EQ-5D items (restricted to patients with problems)				
	Any Improvement in:				
	Mobility/ Walking	**Self-care**	**Usual activities**	**Pain/ Discomfort**	**Anxiety/ Depression**
Unadjusted OR [95% CI]	0.509 [0.440, 0.590]	0.494 [0.413, 0.591]	0.531 [0.466, 0.607]	0.721 [0.641, 0.811]	0.738 [0.630, 0.865]
Adjusted for Baseline CDAI	0.506 [0.436, 0.589]	0.505 [0.421, 0.606]	0.521 [0.455, 0.598]	0.666 [0.588, 0.755]	0.733 [0.622, 0.864]
	EQ-5D domains (restricted to patients with No problems)				
Unadjusted OR [95% CI]	0.508 [0.438, 0.589]	0.493 [0.412, 0.589]	0.472 [0.409, 0.546]	0.392 [0.322, 0.477]	0.744 [0.633, 0.874]
Adjusted for Baseline CDAI	0.507 [0.436, 0.590]	0.503 [0.420, 0.603]	0.474 [0.409, 0.550]	0.384 [0.314, 0.470]	0.746 [0.631, 0.882]

Abbreviations: BMI=body mass index; CCP=cyclic citrullinated peptide; CDAI=clinical disease activity index; CI=confidence interval; EQ-5D=EuroQol-5 dimension; LDA=low disease activity; M/HDA=moderate or high disease activity; OR=odds ratio; RA=rheumatoid arthritis; RF=rheumatoid factor.

[a]Ordinal logistic regression – odds ratios are provided for disease activity as an ordinal variable with sustained remission/LDA as the reference. The estimates above correspond to the likelihood of having an improvement in the EQ-5D domain of interest for every step up (worsening) in disease activity from 'sustained remission/LDA' to 'improving remission/LDA', to 'worsening M/HDA', to 'sustained M/HDA'. For example, using the unadjusted estimates for pain/discomfort, this suggests the likelihood of improvement is reduced by approximately 28% for each level above sustained remission/LDA. None of the factors tested in the adjusted analyses (gender, age, duration of RA, RF, CCP, insurance, baseline BMI, college education, work status [data not shown] and baseline CDAI [shown above]) were found to markedly change the estimates.

Supplemental Table 4. Median CDAI and PRO values at baseline, 6 and 12 months by disease activity groups

			Disease Activity Group				
		Overall Population (N=1570)[a]	**Sustained Remission/LDA (N=585)**	**Improving Remission/LDA (N=239)**	**Worsening M/HDA (N=190)**	**Sustained M/HDA (N=556)**	**P-value**
CDAI (0-76) Median [IQR]	Baseline N=1570	24 [17, 34]	20 [15, 28]	24 [17, 34]	22 [17, 32]	29 [21, 40]	<.0001
	6-month N=1570	11 [5, 20]	4 [2, 7]	16 [13, 22]	6 [4, 9]	22 [16, 30]	<.0001
	12-month N=1570	10 [4, 19]	3 [1,6]	6 [3, 8]	16 [12, 23]	21 [15, 29]	<.0001
mHAQ (0-3) Median [IQR]	Baseline N=1555	0.50 [0.13, 0.88]	0.25 [0.00, 0.75]	0.43 [0.13, 0.88]	0.50 [0.25, 1.00]	0.63 [0.25, 1.00]	<.0001
	6-month N=1554	0.25 [0.00, 0.71]	0.00 [0.00, 0.38]	0.29 [0.00, 0.63]	0.25 [0.00, 0.63]	0.63 [0.25, 1.00]	<.0001
	12-month N=1549	0.25 [0.00, 0.63]	0.00 [0.00, 0.25]	0.13 [0.00, 0.43]	0.38 [0.13, 0.88]	0.57 [0.25, 1.00]	<.0001
Patient Pain (0-100) Median [IQR]	Baseline N=1566	50 [29, 75]	40 [20, 70]	45 [25, 70]	59 [39, 75]	60 [40, 80]	<.0001
	6-month N=1569	30 [10, 60]	10 [5, 27]	40 [20, 63]	25 [10, 40]	55 [35, 75]	<.0001
	12-month N=1569	30 [10, 60]	12 [5, 30]	25 [10, 45]	44 [20, 70]	60 [35, 75]	<.0001
Patient fatigue[a] **(0-100) Median [IQR]**	Baseline N=983	50 [25, 75]	40 [15, 66]	50 [25, 70]	55 [30, 75]	65 [40, 80]	<.0001
	6-month N=1076	40 [15, 69]	20 [5, 45]	45 [15, 65]	30 [10, 50]	65 [40, 80]	<.0001
	12-month N=1149	35 [10, 66]	15 [5, 35]	25 [10, 50]	50 [20, 72]	60 [35, 80]	<.0001
Morning stiffness (hrs)	Baseline N=1526	1.00 [0.50, 2.00]	1.00 [0.33, 2.00]	1.00 [0.42, 2.00]	1.09 [0.50, 2.63]	1.00 [0.50, 2.50]	0.0024
	6-month N=1536	0.50 [0.00, 1.50]	0.17 [0.00, 0.50]	0.50 [0.17, 1.50]	0.33 [0.00, 1.00]	1.00 [0.33, 2.00]	<.0001

Median [IQR]	12-month N=1525	0.50 [0.00, 1.00]	0.17 [0.00, 0.50]	0.33 [0.00, 1.00]	0.75 [0.25, 2.00]	1.00 [0.50, 2.00]	<.0001
PtGA (0-100) Median [IQR]	Baseline N=1570	50 [30, 70]	40 [20, 62]	50 [25, 65]	55 [40, 70]	55 [40, 75]	<.0001
	6-month N=1570	30 [10, 55]	10 [5, 26]	40 [20, 60]	20 [10, 40]	50 [30, 70]	<.0001
	12-month N=1570	30 [10, 55]	10 [5, 25]	20 [7, 40]	45 [25, 65]	50 [32, 70]	<.0001
EQ-5D-3L US Index Score[a] (-0.102-1.0) Median [IQR]	Baseline N=941	0.71 [0.60, 0.81]	0.78 [0.69, 0.82]	0.76 [0.69, 0.82]	0.71 [0.60, 0.78]	0.69 [0.45, 0.78]	<.0001
	6-month N=1024	0.78 [0.69, 0.83]	0.83 [0.78, 1.00]	0.78 [0.69, 0.82]	0.79 [0.71, 0.83]	0.71 [0.60, 0.80]	<.0001
	12-month N=1085	0.78 [0.69, 0.83]	0.83 [0.78, 1.00]	0.80 [0.71, 0.83]	0.76 [0.60, 0.82]	0.69 [0.60, 0.78]	<.0001

Abbreviations: CDAI=Clinical Disease Activity Index; EQ-5D-3L=EuroQol-5 dimension-3 level; hrs=hours; IQR=interquartile range; LDA=low disease activity; mHAQ=modified Health Assessment Questionnaire; M/HDA=moderate or high disease activity; PRO=patient reported outcome; PtGA=Patient's Global Assessment of Disease Activity.

[a]Counts may be reduced due to missing data for some variables (e.g., Patient Fatigue and EQ-5D-3L US Index Score were not included in the Corrona RA questionnaire until October 2010).

Supplemental Table 5. Biologic DMARD treatment patterns over the 12-month follow-up period

		Disease Activity Group			
	Overall Population (N=1570)	**Sustained Remission/LDA (N=585)**	**Improving Remission/LDA (N=239)**	**Worsening M/HDA (N=190)**	**Sustained M/HDA (N=556)**
Remained on index TNFi, n (%)	n=992	460 (46.4)	149 (15.0)	115 (11.6)	268 (27.0)
Discontinued biologic, n (%)	n=226	58 (25.7)	26 (11.5)	39 (17.3)	103 (45.6)
Switched to another biologic, n (%)	n=352	67 (19.0)	64 (18.2)	36 (10.2)	185 (52.6)
Alternative TNFi, n (%)	n=246	50 (20.3)	47 (19.1)	25 (10.2)	124 (50.4)
Time (months) to switch, median [IQR]	6.0 [3.9, 9.0]	6.0 [2.9, 9.0]	6.0 [3.0, 8.0]	8.0 [4.0, 11.0]	6.0 [4.0, 9.0]
Non-TNFi, n (%)	n=106	17 (16.0%)	17 (16.0%)	11 (10.4%)	61 (57.5%)
Time (months) to switch, median [IQR]	6.5 [4.0, 10.0]	6.0 [3.0, 9.0]	5.0 [3.0, 6.0]	8.0 [5.0, 11.0]	7.1 [5.0, 10.0]

Abbreviations: DMARD=disease-modifying antirheumatic drugs; LDA=low disease activity; M/HDA=moderate or high disease activity; TNFi=tumor necrosis factor inhibitor.