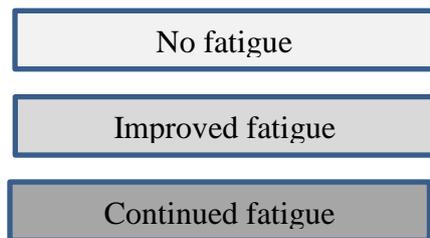


Supplementary table 1 The longitudinal development of clinically significant fatigue across 6 visits after start of biologic DMARD treatment.

| Longitudinal trajectories of fatigue | Number | Added% | Cum. % |
|--|---------------|---------------|---------------|
| RAID fatigue ≤ 3 at 4 out of 5 visits, and ≤ 3 at 1 st | 61 | 29.33% | 29.33% |
| RAID fatigue ≥ 4 at 1 st visit, thereafter ≤ 3 | 18 | 8.68% | 37.98% |
| RAID fatigue ≥ 4 at 1 st and 2 nd visit, thereafter ≤ 3 | 3 | 1.44% | 39.42% |
| RAID fatigue ≥ 4 at 1 st , 2 nd and 3 rd visit, thereafter ≤ 3 | 9 | 4.33% | 43.75% |
| RAID fatigue ≥ 4 at 1 st , 2 nd , 3 rd and 4 th visit, thereafter ≤ 3 | 3 | 1.43% | 45.18% |
| RAID fatigue ≥ 4 1 st , 2 nd , 3 rd , 4 th and 5 th visit, thereafter ≤ 3 | 5 | 2.40% | 47.58% |
| RAID fatigue ≥ 4 at 5 out of 6 visits, but ≥ 4 at 6 th visit | 48 | 23.09% | 70.67% |
| No discernible pattern | 34 | 16.35% | 87.02% |
| RAID fatigue increasing | 3 | 1.44% | 88.46% |
| RAID fatigue missing after 2 nd or 3 rd visit. | 24 | 11.54% | 100% |
| Total | 208 | 100% | 100% |

RAID; Rheumatoid Arthritis Impact of Disease (RAID) questionnaire
 Clinically significant fatigue = RAID fatigue ≥ 4



Supplementary table 2 Mixed model marginal likelihood estimates for disease activity and patient reported outcome measures across fatigue trajectories

| | No fatigue vs improved fatigue | No fatigue vs continued fatigue | Improved fatigue vs continued fatigue |
|-------------------------------|---------------------------------------|--|--|
| RA disease activity | | | |
| Swollen joints (28) | 0.28 (-1.68-2.24) | 0.28 (-1.98-1.43) | -0.73 (-2.68-1.23) |
| CRP (mg/L) | -2.81 (-6.83-1.22) | -1.22 (-4.85-2.41) | 1.84 (-3.42-7.11) |
| Calprotectin (mg/L) | -0.22 (-0.66-0.22) | 0.05 (-0.27- 0.36) | 0.24(-0.16-0.65) |
| Sum PD | 0.10 (-4.38-4.57) | 1.90 (-1.74-5.53) | 1.16 (-3.06-5.39) |
| Sum BM | 1.80 (-4.79-8.40) | 3.38 (-2.38-9.14) | 0.60 (-5.88-7.07) |
| Psychosocial | | | |
| Patient global assessment VAS | -9.94 (-15.71- -4.17)* | -34.24 (-40.42- -28.06)** | -24.11 (-32.46-15.77)** |
| Tender joints (28) | -0.51 (-1.36- -0.34) | -5.23 (-6.98- -3.48)** | -4.76 (-7.11- -2.40)** |
| RAID sleep | -1.82 (-2.43- -1.21)** | -4.42 (-5.08- -3.75)** | -2.65 (-3.62-1.68)** |
| RAID fatigue | -1.67 (-2.09-1.24)** | -5.08 (-5.57- -4.58)** | -3.43 (-4.08- -2.78)** |
| Widespread pain | -1.37 (-2.33-0.41)* | -3.41 (-4.43- -2.38)** | -2.09 (-3.46- -0.71)* |
| HADS anxiety# | -0.04 (-0.83-0.75) | -3.64 (-4.94- -2.35)** | -3.64 (-5.47- -1.82)** |
| HADS depression# | -0.10 (-0.60-0.39) | -3.45 (-4.51-2.39)** | -3.44 (-4.91- -1.98)** |
| Pain Catastrophizing | -0.91 (-1.31- -0.50)** | -1.73 (-2.12- -1.33)** | -0.83 (-1.38- 0.28)* |

Models adjusted for age, gender and time * $p \leq 0.05$ ** $p \leq 0.001$

No fatigue: Fatigue ≤ 3 at baseline and at 4/5 visits. Improved fatigue: Fatigue ≥ 4 at baseline, but ≤ 3 at 6- and 12-months visit. Continued: Fatigue ≥ 4 at 5/6 visits

PD; power Doppler, GS; grey scale, VAS; Visual analogue scale, HADS; Hospital anxiety and depression scale.