**S1 Appendix.** Working Groups RA CEA Model Framework “Wish List”

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| **Model Parameters** | **Common to most current modeling approaches** | **Proposed Model** |
| Technique | Discrete event simulation, Individual patient simulation, Markov cohort | TBD\* |
| Baseline Patient Characteristics | Age, gender, HAQ & weight | Demographic: age, gender, duration of disease, weight  Prognostic factors: Sero positivity (RF and/or ACPA), auto immune co-morbidities  Risk of infections: age, diabetes, BMI, corticosteroid use |
| Extra-articular manifestation | None | CVD: CV related risk factors |
| Treatment effect | ACR20, DAS28, EULAR (DAS28 baseline & change from baseline) | TBD\* |
| Disease progression | HAQ | TBD\* |
| Utility | through HAQ | TBD\* |
| Treatment patterns | Sequential switching | Real world based  Dose escalation |
| Treatment adverse effects | Same across all treatments | Treatment class specific |
| Same across all patients | Subgroups of patients at high risk for AEs and infections |

**\* To be determined based on literature and database analysis**