

SUPPLEMENTARY APPENDIX

Table S1: The MuSC-19 Study group

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Alfredo Petrone	Ospedale Annunziata (Cosenza)
Alvino Bisecco	MS Center I Division of Neurology, Department of Advanced Medical and Surgical Sciences, University of Campania (Napoli)
Aniello Iovino	Department of neuroscience, reproductive science and odontostomatology (Napoli)
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Antonio Zito	Multiple Sclerosis Center, IRCCS Mondino Foundation (Pavia)
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Matteo Pozzato	University of Milan
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Pietro Annovazzi	Centro Sclerosi Multipla, ASST della Valle Olona, Ospedale di Gallarate
Pietro Iaffaldano	Department of Basic Medical Sciences, Neurosciences and Sense Organs, University of Bari Aldo Moro (Bari)
Raffaele Nardone	Paracelsus Medical University, Department of Neurology, Salisburgo (AU)
Raffaella Cerqua	Centro Sclerosi Multipla Ospedali Riuniti Ancona
Raffaella Clerici	Valduce Hospital, Department of Neurology, Como
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Roberto Balgera	MS Center, ASST Lecco, Lecco, Italy.
Roberto Bergamaschi	Multiple Sclerosis Center, IRCCS Mondino Foundation (Pavia)
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Ruggero Capra	Centro Sclerosi Multipla ASST Spedali Civili di Brescia
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Sabrina Realmuto	UOC di Neurologia e Stroke Unit, AOOR Villa Sofia Cervello (Palermo)
Salvatore Cottone	Multiple Sclerosis Center, U.O.C. Dep. of Neurology Stroke Unit A.R.N.A.S Civico Palermo
Sara Montepietra	IRCSS AUSL Reggio Emilia UOC di Neurologia
Sarah Rasia	Centro Sclerosi Multipla ASST Spedali Civili di Brescia
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Sebastiano Bucello	P.O. Muscatello (Augusta, SR)
Silvia Banfi	AIMS Rehabilitation Center, Italian MS Society, Como
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Vincenzo Dattola	Department of Medical and Surgical Sciences, Magna Graecia University of Catanzaro, Italy Great Metropolitan Hospital, Reggio Calabria, Italy
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Table S2: List of Centers and enrolled patients

Centers	Patients*
01 - Centro Sclerosi Multipla ASST Spedali Civili di Brescia (Montichiari, BS)	113
02 - Multiple Sclerosis Center, IRCCS Mondino Foundation (Pavia)	15
03 - Multiple Sclerosis Center, Policlinico Umberto I, Department of Human Neuroscience, Sapienza, University of Rome (Roma)	1
04 - Centro Sclerosi Multipla della SC neurologia e stroke unit dell'ausl della Valle d' Aosta (Aosta)	4
05 - Department of Neuroscience, Rehabilitation, Ophthalmology, Genetics, Maternal and Child Health (DINOGMI), University of Genova (Genova)	26
06 - Centro Sclerosi Multipla U.O.C. Neurologia con Stroke Unit A.R.N.A.S Civico (Palermo)	2
07 - San Raffaele Hospital (Milano)	88
08 - Multiple Sclerosis Center, University Hospital of Verona (Verona)	15
09 - Centro Sclerosi Multipla Fidenza (Fidenza, PR)	12
10 - Multiple Sclerosis Center, Ospedale Guglielmo da Saliceto (Piacenza)	23
11 - Centro Sclerosi Multipla, ASST della Valle Olona, Ospedale di Gallarate (Gallarate, VA)	19
12 - Multiple Sclerosis Centre of Veneto Region (Padova)	7
13 - IRCCS Istituto Scienze Neurologiche di Bologna, UOSI Riabilitazione Sclerosi Multipla (Bologna)	10
14 - Multiple Sclerosis Center and research unit, Fondazione Policlinico di Tor Vergata, Rome, Italy (Roma)	4
15 - Neuroimmunology, Center for Multiple Sclerosis, Neurological Department, ASST Crema (Crema, CR)	8
16 - Centro Sclerosi Multipla San Camillo Forlanini (Roma)	4
17 - UOC II Neurologia Università della Campania "Luigi Vanvitelli" (Napoli)	4
18 - Centro Sclerosi Multipla Ospedali Riuniti Ancona (Ancona)	3
19 - Valduce Hospital, Department of Neurology (Como)	5
20 - Azienda Ospedaliero-Universitaria di Parma (Parma)	12
21 - Department of Neurology and Multiple Sclerosis Center, ASST "Papa Giovanni XXIII" (Bergamo)	90
22 - Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico (Milano)	11
23 - Università di Palermo; Dipartimento di Biomedicina, Neuroscienze e Diagnostica avanzata (Palermo)	4
24 - Regional Referral Multiple Sclerosis Centre, Dept. of Neurology, University Hospital San Luigi (Orbassano, TO)	18
26 - Neurologia A, Azienda Ospedaliera Universitaria Integrata Verona (Verona)	3
27 - Unità Operativa di Neurologia dell'Ospedale San Raffaele Giglio di Cefalù (Palermo)	1
28 - S.O. Centro Sclerosi Multipla, U.O. Neurologia IV, Fondazione IRCCS Istituto Neurologico "Carlo Besta" (Milano)	57
29 - Department of Neurology, Regina Montis Regalis Hospital (Mondovì, CN)	4
30 - Reggio Emilia multiple sclerosis center (Reggio Emilia)	2
31 - Multiple Sclerosis Center (Merano, BZ)	5
32 - Dipartimento di Scienze Cliniche e Biologiche (Torino)	2
33 - Multiple Sclerosis Center, University of Naples Federico II (Napoli)	18
34 - Università degli Studi di Messina (Messina)	6
35 - Centro Sclerosi Multipla, A.O.U. Città della Salute e della Scienza di Torino (Torino)	14
36 - AOU Careggi Riabilitazione Neurologia (Firenze)	2
37 - Centro Malattie Demyelinizzanti (Modena)	3
38 - Centro SM del G.O.M. (Reggio Calabria)	4

39 - Centro Sclerosi Multipla, azienda ospedale università s. Anna Cona Ferrara (Ferrara)	1
40 - Multiple Sclerosis Centre SS Annunziata Hospital University Chieti (Chieti)	10
41 - Department of Medicine, Surgery and Neuroscience, University of Siena (Siena)	3
42 - Ambulatorio "Sclerosi Multipla" ospedale "SS. Annunziata" Savigliano (CUNEO) (Savigliano, CN)	3
43 - Centro Sclerosi Multipla (Foligno, PG)	4
44 - UOC di Neurologia e Stroke Unit, AOOR Villa Sofia-Cervello (Palermo)	1
45 - MS Center - I Division of Neurology, Department of Advanced Medical and Surgical Sciences, University of Campania (Napoli)	7
47 - Centro Sclerosi Multipla Ospedale Spaziani (Frosinone)	2
48 - Centro Sclerosi Multipla (Livorno)	3
49 - Centro Malattie Demyelinizzanti (L'Aquila)	2
50 - Neurology Unit, Department of Translational Medicine, University of Piemonte Orientale (Novara)	2
51 - IRCCS Fondazione Don Carlo Gnocchi (Milano)	8
52 - UOS Sclerosi Multipla - Fondazione Policlinico Universitario Agostino Gemelli IRCCS (Roma)	3
53 - SC Neurologia 2U AOU Città della salute e della Scienza di Torino (Torino)	4
54 - Department GF Ingrassia, University of Catania, Centro Sclerosi Multipla, Policlinico Catania (Catania)	6
55 - Santa Lucia Foundation IRCCS, MS Center (Roma)	1
56 - Ospedale Santa Chiara, Trento. UO Neurologia (Trento)	3
57 - ASST Ovest Milanese Ospedale di Legnano (Legnano, MI)	1
58 - Centro Sclerosi Multipla, UO Neurologia, Ospedale San Giacomo, Monopoli (Bari)	1
59 - Clinica Neurologica, ASUGI (Trieste)	5
60 - Ospedale Maria Vittoria (Torino)	1
62 - Centro Sclerosi Multipla- ASST Grande Ospedale Metropolitano Niguarda (Milano)	21
63 - AISM Rehabilitation Center, Italian MS Society, Genoa (Genova)	37
64 - AISM Rehabilitation Center, Italian MS Society, Padova (Padova)	21
65 - AISM Rehabilitation Center, Italian MS Society, Vicenza (Vicenza)	23
66 - AISM Rehabilitation Center, Italian MS Society, Como (Como)	6
67 - AISM Rehabilitation Center, Italian MS Society, Aosta (Aosta)	1
68 - Centro Provinciale SM Ospedale San Paolo ASL Napoli 1 Centro (Napoli)	4
69 - Neurologia e centro per l'epilessia (Napoli)	3
70 - Centro Sclerosi Multipla ospedale San Lazzaro (Alba, CN)	1
72 - Department of Basic Medical Sciences, Neurosciences and Sense Organs, University of Bari Aldo Moro (Bari)	3
75 - P.O. Muscatello (Augusta, SR)	2
78 - Istituti Clinici Humanitas (Rozzano, MI)	2
79 - S. Andrea (Roma)	4
80 - Centro Sclerosi Multipla Ospedale San Carlo Borromeo (Milano)	1
81 - OU Neurology Treviso (Treviso)	1
82 - Centro Sclerosi Multipla Ospedale Bufalini (Cesena)	1
83 - Centro Sclerosi Multipla Rieti (Rieti)	2
85 - Centro Malattie Demyelinizzanti, U.O. Neurologia, Azienda Ospedaliero Universitaria Pisana (Pisa)	2
86 - SC di Neurofisiopatologia, Azienda Ospedaliera di Perugia (Perugia)	3
87 - CRRF "Mons.L.Novarese" (Moncrivello, VC)	1
89 - Ospedale Annunziata (Cosenza)	1
90 - MS Center, ASST Lecco (Lecco)	16
93 - Centro per la Sclerosi Multipla II Clinica Neurologica Università della Campania (Napoli)	7
94 - Ambulatorio Dedicato Sclerosi Multipla - Ospedale San Maurizio di Bolzano (Bolzano)	5

96 - Centro Sclerosi Multipla- Azienda Ospedaliera Sant' Andrea (Roma)	1
99 - Centro Regionale di Diagnosi e Terapia della Sclerosi Multipla A. Cardarelli (Napoli)	1
100 - Centro Sclerosi Multipla Neurologia II AOU Careggi (Firenze)	1

** Seventeen (17) patients were asymptomatic; therefore, they were excluded from the analysis.*

Table S3: Frequency of subjects per Region

Region	n	Frequency
Lombardia	455	53,9
Veneto	69	8,2
Emilia Romagna	63	7,5
Liguria	63	7,5
Piemonte	48	5,7
Campania	42	5,0
Sicilia	22	2,6
Lazio	20	2,4
Trentino Alto Adige	13	1,5
Abruzzo	12	1,4
Toscana	10	1,2
Umbria	6	,7
Friuli Venezia Giulia	5	,6
Val d'Aosta	5	,6
Calabria	4	,5
Puglia	4	,5
Marche	3	,4

Table S4: Exploratory analysis on the effect on the risk of Covid-19 severe disease course of the time passed since last infusion of anti-CD20 therapy and of the anti-CD20 therapy duration. Multivariate Analysis adjusted for macro-region, age, sex, EDSS, disease duration, progressive MS course, BMI and methylprednisolone use within 1 month. N=844

Variable	OR (95% C.I.)	p
Other therapies	1 (ref)	
antiCD20: <3 months since last infusion	2.77 (1.31-5.85)	0.012
antiCD20: >=3 months since last infusion	2.05 (0.97-4.28)	0.023
Other therapies	1 (ref)	
antiCD20: therapy since =<6 months	1.65 (0.56-4.90)	0.36
antiCD20: therapy since 6-12 months	2.24 (0.91-5.55)	0.08
antiCD20: therapy >12 months	2.98 (1.37-6.46)	0.006

*Model run on 844 patients. AntiCD20= Ocrelizumab or Rituximab. Comparison is vs other therapies or no therapy.
OR = odds ratio

Table S5: Sensitivity analyses (1): Multivariable ordinal logistic regression models evaluating risk factors for severe Covid-19 (ICU or death vs hospitalization or pneumonia vs milder symptoms not requiring hospitalization and no documented pneumonia) on confirmed cases only.

Variable	Multivariable Analysis*, n=279	
	OR (95% C.I.)	p
Age (years)	1.05 (1.02-1.08)	0.002
Sex (Female vs Male)	0.76 (0.42-1.35)	0.35
MS type (Progressive vs RR)	1.10 (0.38-3.18)	0.86
EDSS	1.16 (0.95-1.43)	0.15
Disease duration (years)	1.00 (0.96-1.03)	0.65
BMI	0.98 (0.93-1.04)	0.51
Presence of comorbidities	0.93 (0.58-1.47)	0.74
Methylprednisolone 1 month before symptoms onset	4.55 (1.11-18.53)	0.035
Disease modifying therapy		
No therapy**	1 (ref)	
Interferon	0.53 (0.13-2.18)	0.37
Glatiramer-Acetate	0.48 (0.11-2.15)	0.34
Teriflunomide	0.74 (0.24-2.26)	0.59
Dimethyl-fumarate	0.71 (0.26-1.96)	0.51
Natalizumab	0.63 (0.17-2.27)	0.48
Fingolimod	1.21 (0.43-3.39)	0.72
Ocrelizumab or Rituximab (antiCD20)	2.62 (0.99-7.09)	0.05
Other	0.47 (0.10-2.15)	0.33

*All the analyses are adjusted for macro-region (Lombardia, Northern Italy including Veneto, Emilia-Romagna, Piemonte, Liguria, and rest of Italy).

**No therapy was chosen as the reference class

OR = odds ratio

Table S6: Sensitivity analyses (2): Multivariable analysis excluding one of the major centers at a time (Brescia, Bergamo, Milan) adjusted for macro-region, age, sex, EDSS, disease duration, progressive MS course, BMI, comorbidities.

Variable	Multivariable Analysis	
	OR (95% C.I.)	p
Sensitivity: Leave-one-out (Brescia) (n=736)		
Methylprednisolone 1 month before symptoms	3.63 (1.39-9.43)	0.008
Disease modifying therapy		
Other therapies	1 (ref)	
anti-CD20	2.03 (1.19-3.73)	0.02
Sensitivity: Leave-one-out (Bergamo) (n=754)		
Methylprednisolone 1 month before symptoms	4.37 (1.87-10.16)	0.001
Disease modifying therapy		
Other therapies	1 (ref)	
anti-CD20	2.36 (1.33-4.17)	0.003
Sensitivity: Leave-one-out (Milan HSR) (n=756)		
Methylprednisolone 1 month before symptoms	4.73 (2.01-11.11)	<0.001
Disease modifying therapy		
Other therapies	1 (ref)	
anti-CD20	2.37 (1.35-4.15)	0.003

Table S7: Sensitivity analyses (3): Multivariable analysis on the RRMS subgroup (n = 698)

Variable	Multivariable Analysis	
	OR (95% C.I.)	p
Age (years)	1.04 (1.02 – 1.07)	0.002
Sex (Female vs Male)	0.68 (0.40 – 1.13)	0.14
EDSS	1.02 (0.85 – 1.23)	0.80
Disease duration (years)	1.01 (0.98 – 1.05)	0.41
BMI	0.98 (0.93 – 1.04)	0.59
Presence of comorbidities	0.97 (0.52 – 1.78)	0.91
Methylprednisolone 1 month before symptoms onset	5.27 (2.04 – 13.64)	0.001
Disease modifying therapy		
No therapy	1 (ref)	
Ocrelizumab or Rituximab (antiCD20)	2.87 (1.09 – 7.53)	0.033
Natalizumab	1.42 (0.56 – 3.62)	0.47
Fingolimod	1.31 (0.47 – 3.68)	0.61
Dimethyl-fumarate	1.11 (0.45 – 2.74)	0.82
Teriflunomide	0.80 (0.27 – 2.34)	0.68
Glatiramer-Acetate	0.83 (0.27 – 2.57)	0.74
Interferon	0.69 (0.23 – 2.09)	0.51
Other	0.34 (0.04 – 2.95)	0.33

*All the analyses are adjusted for macro-region (Lombardia, Northern Italy including Veneto, Emilia-Romagna, Piemonte, Liguria, and rest of Italy).

**No therapy was chosen as the reference class

OR = odds ratio

Table S8: Sensitivity analyses (4): Multivariable analysis with complete baseline data, without imputation (n=587)

Variable	Multivariable Analysis*	
	OR (95% C.I.)	p
Age (years)	1.07 (1.03 – 1.10)	< 0.001
Sex (Female vs Male)	0.92 (0.54 - 1.56)	0.75
MS type (Progressive vs RR)	2.19 (0.89 – 5.34)	0.09
EDSS	0.85 (0.70 – 1.02)	0.08
Disease duration (years)	1.01 (0.98 – 1.04)	0.47
BMI	1.00 (0.99 – 1.00)	0.95
Presence of comorbidities	1.08 (0.61 – 1.93)	0.78
Methylprednisolone 1 month before symptoms onset	6.49 (2.29 – 18.39)	<0.001
Disease modifying therapy		
No therapy**	1 (ref)	
Ocrelizumab or Rituximab (antiCD20)	2.69 (1.13 – 6.40)	0.026
Natalizumab	0.91 (0.28 – 2.90)	0.87
Fingolimod	1.45 (0.62 – 3.42)	0.39
Dimethyl-fumarate	0.80 (0.31 – 2.09)	0.65
Teriflunomide	1.27 (0.46 – 3.51)	0.64
Glatiramer-Acetate	0.33 (0.09 – 1.30)	0.11
Interferon	0.57 (0.17 – 1.94)	0.37
Other	0.55 (0.11 – 2.66)	0.46

*All the analyses are adjusted for macro-region (Lombardia, Northern Italy including Veneto, Emilia-Romagna, Piemonte, Liguria, and rest of Italy).

**No therapy was chosen as the reference class

OR = odds ratio

Table S9: Analysis on hard endpoints: logistic regression model adjusted for region, age, sex, EDSS, disease duration, progressive MS course, BMI to assess the impact of methylprednisolone use one month before symptoms onset and the effect of anti-CD therapy (vs other therapies or no therapy) on the risk of death and on the risk of death or admission to Intensive Care Unit (ICU).

Endpoint: Death, n=844		
Variable	OR (95% C.I.)	p
Methylprednisolone use	2.88 (0.18-45.94)	0.45
antiCD20	2.93 (0.43-19.99)	0.27
Endpoint: ICU or death, n=844		
Methylprednisolone use	6.66 (2.05-20.03)	0.002
antiCD20	1.91 (0.80-4.66)	0.16

AntiCD20= Ocrelizumab or Rituximab. Comparison is vs other therapies or no therapy. ICU= Intensive Care Unit

OR = odds ratio

Table S10: : Presentation of the results of the same multivariable ordinal logistic regression models evaluating risk related to disease modifying therapies for severe Covid-19 (ICU or death vs hospitalization or pneumonia vs milder symptoms not requiring hospitalization and no documented pneumonia) presented in Table 4, when Dimethyl fumarate is used as the reference class.

Variable	Univariable Analysis n=844		Multivariable Analysis* n=844	
	OR (95% C.I.)	p	OR (95% C.I.)	p
Disease modifying therapy				
Dimethyl-fumarate **	1 (ref)		1 (ref)	
Interferon	0.92 (0.39-2.19)	0.85	0.60 (0.24-1.55)	0.27
Glatiramer-Acetate	0.87 (0.35-2.17)	0.77	0.68 (0.26-1.78)	0.59
Teriflunomide	1.25 (0.54-2.90)	0.60	0.77 (0.31-1.87)	0.56
Natalizumab	0.93 (0.41-2.15)	0.87	1.16 (0.49-1.77)	0.73
Fingolimod	1.42 (0.69-2.92)	0.34	1.07 (0.49-1.87)	0.64
Ocrelizumab or Rituximab (antiCD20)	2.65 (1.38-5.10)	0.003	2.11 (1.03-4.33)	0.04
No therapy	2.81 (1.56-5.08)	0.001	0.89 (0.44-1.83)	0.75
Other	1.16 (0.41-2.15)	0.79	0.63 (0.20-2.00)	0.44

*The multivariable analysis is adjusted for macro-region (Lombardia, Northern Italy including Veneto, Emilia-Romagna, Piemonte, Liguria, and rest of Italy), age, sex, progressive MS, EDSS, disease duration, BMI, presence of comorbidities, recent methylprednisolone use.

**Dimethyl-fumarate was chosen as the reference class

OR = odds ratio

Table S11: Patients characteristics after PS weighting

DMT1	DMT2	Variable	mean1	mean2	SD	Standardized Mean Difference	p-value
No therapy	Interferon	Age	45.511	46.431	12.059	0.076	0.631
No therapy	Interferon	Females	76.5	76.4	45.6	0.002	0.989
No therapy	Interferon	Males	23.5	23.6	45.6	0.002	0.989
No therapy	Interferon	RR MS	81.5	91.3	30.3	0.324	0.07
No therapy	Interferon	Progressive MS	18.5	8.7	30.3	0.324	0.07
No therapy	Interferon	EDSS	2.795	2.493	2.081	0.145	0.363
No therapy	Interferon	Disease duration	11.823	11.354	8.627	0.054	0.722
No therapy	Interferon	BMI	23.385	23.626	4.553	0.053	0.729
No therapy	Interferon	No comorbidities	78.5	76.6	39.7	0.049	0.765
No therapy	Interferon	Comorbidities	21.5	23.4	39.7	0.049	0.765
No therapy	Interferon	No Methylprednisolone	96.2	96.7	15.5	0.033	0.87
No therapy	Interferon	Methylprednisolone	3.8	3.3	15.5	0.033	0.87
No therapy	Glatiramer Acetate	Age	45.511	45.859	12.059	0.029	0.867
No therapy	Glatiramer Acetate	Females	76.5	73.9	45.6	0.057	0.703
No therapy	Glatiramer Acetate	Males	23.5	26.1	45.6	0.057	0.703
No therapy	Glatiramer Acetate	RR MS	81.5	88.2	30.3	0.222	0.343
No therapy	Glatiramer Acetate	Progressive MS	18.5	11.8	30.3	0.222	0.343
No therapy	Glatiramer Acetate	EDSS	2.795	2.531	2.081	0.127	0.474
No therapy	Glatiramer Acetate	Disease duration	11.823	11.564	8.627	0.03	0.852
No therapy	Glatiramer Acetate	BMI	23.385	23.884	4.553	0.11	0.453
No therapy	Glatiramer Acetate	No comorbidities	78.5	82.7	39.7	0.105	0.482
No therapy	Glatiramer Acetate	Comorbidities	21.5	17.3	39.7	0.105	0.482
No therapy	Glatiramer Acetate	No Methylprednisolone	96.2	98.7	15.5	0.157	0.321
No therapy	Glatiramer Acetate	Methylprednisolone	3.8	1.3	15.5	0.157	0.321
No therapy	Teriflunomide	Age	45.511	45.472	12.059	0.003	0.984
No therapy	Teriflunomide	Females	76.5	71.9	45.6	0.102	0.531
No therapy	Teriflunomide	Males	23.5	28.1	45.6	0.102	0.531
No therapy	Teriflunomide	RR MS	81.5	92.6	30.3	0.367	0.096
No therapy	Teriflunomide	Progressive MS	18.5	7.4	30.3	0.367	0.096
No therapy	Teriflunomide	EDSS	2.795	2.471	2.081	0.156	0.318
No therapy	Teriflunomide	Disease duration	11.823	11.049	8.627	0.09	0.563
No therapy	Teriflunomide	BMI	23.385	23.608	4.553	0.049	0.749

No therapy	Teriflunomide		78.5	77.4	39.7	.397	0.029	0.855
No therapy	Teriflunomide		21.5	22.6	39.7	.397	0.029	0.855
No therapy	Teriflunomide		96.2	97.5	15.5	.155	0.082	0.633
No therapy	Teriflunomide		3.8	2.5	15.5	.155	0.082	0.633
No therapy	Dimethyl Fumarate	Age	45.511	44.322	12.059		0.099	0.451
No therapy	Dimethyl Fumarate	Females	76.5	68.3	45.6		0.18	0.173
No therapy	Dimethyl Fumarate	Males	23.5	31.7	45.6		0.18	0.173
No therapy	Dimethyl Fumarate	RR MS	81.5	87.2	30.3		0.189	0.336
No therapy	Dimethyl Fumarate	Progressive MS	18.5	12.8	30.3		0.189	0.336
No therapy	Dimethyl Fumarate	EDSS	2.795	2.68	2.081		0.055	0.732
No therapy	Dimethyl Fumarate	Disease duration	11.823	11.398	8.627		0.049	0.703
No therapy	Dimethyl Fumarate	BMI	23.385	23.498	4.553		0.025	0.851
No therapy	Dimethyl Fumarate	No comorbidities	78.5	80.7	39.7		0.054	0.701
No therapy	Dimethyl Fumarate	Comorbidities	21.5	19.3	39.7		0.054	0.701
No therapy	Dimethyl Fumarate	No Methylprednisolone	96.2	98	15.5		0.114	0.353
No therapy	Dimethyl Fumarate	Methylprednisolone	3.8	2	15.5		0.114	0.353
No therapy	Fingolimod	Age	45.511	41.461	12.059		0.336	0.02
No therapy	Fingolimod	Females	76.5	74.6	45.6		0.041	0.785
No therapy	Fingolimod	Males	23.5	25.4	45.6		0.041	0.785
No therapy	Fingolimod	RR MS	81.5	97.4	30.3		0.526	0.015
No therapy	Fingolimod	Progressive MS	18.5	2.6	30.3		0.526	0.015
No therapy	Fingolimod	EDSS	2.795	2.486	2.081		0.149	0.282
No therapy	Fingolimod	Disease duration	11.823	10.252	8.627		0.182	0.196
No therapy	Fingolimod	BMI	23.385	23.474	4.553		0.02	0.897
No therapy	Fingolimod	No comorbidities	78.5	81.1	39.7		0.065	0.695
No therapy	Fingolimod	Comorbidities	21.5	18.9	39.7		0.065	0.695
No therapy	Fingolimod	No Methylprednisolone	96.2	98.7	15.5		0.159	0.307
No therapy	Fingolimod	Methylprednisolone	3.8	1.3	15.5		0.159	0.307
No therapy	Natalizumab	Age	45.511	43.729	12.059		0.148	0.293
No therapy	Natalizumab	Females	76.5	74.4	45.6		0.047	0.746
No therapy	Natalizumab	Males	23.5	25.6	45.6		0.047	0.746
No therapy	Natalizumab	RR MS	81.5	88.7	30.3		0.238	0.12
No therapy	Natalizumab	Progressive MS	18.5	11.3	30.3		0.238	0.12
No therapy	Natalizumab	EDSS	2.795	2.609	2.081		0.09	0.484
No therapy	Natalizumab	Disease duration	11.823	11.746	8.627		0.009	0.949
No therapy	Natalizumab	BMI	23.385	23.659	4.553		0.06	0.629
No therapy	Natalizumab	No comorbidities	78.5	79.1	39.7		0.014	0.92
No therapy	Natalizumab	Comorbidities	21.5	20.9	39.7		0.014	0.92
No therapy	Natalizumab	No Methylprednisolone	96.2	97	15.5		0.05	0.727

No therapy	Natalizumab	Methylprednisolone	3.8	3	15.5	0.05	0.727
No therapy	AntiCD20	Age	45.511	42.228	12.059	0.272	0.052
No therapy	AntiCD20	Females	76.5	68.6	45.6	0.174	0.25
No therapy	AntiCD20	Males	23.5	31.4	45.6	0.174	0.25
No therapy	AntiCD20	RR MS	81.5	83.5	30.3	0.066	0.654
No therapy	AntiCD20	Progressive MS	18.5	16.5	30.3	0.066	0.654
No therapy	AntiCD20	EDSS	2.795	2.716	2.081	0.038	0.779
No therapy	AntiCD20	Disease duration	11.823	10.481	8.627	0.156	0.252
No therapy	AntiCD20	BMI	23.385	22.768	4.553	0.136	0.274
No therapy	AntiCD20	No comorbidities	78.5	83.7	39.7	0.13	0.337
No therapy	AntiCD20	Comorbidities	21.5	16.3	39.7	0.13	0.337
No therapy	AntiCD20	No Methylprednisolone	96.2	98.6	15.5	0.151	0.352
No therapy	AntiCD20	Methylprednisolone	3.8	1.4	15.5	0.151	0.352
No therapy	Other	Age	45.511	44.002	12.059	0.125	0.508
No therapy	Other	Females	76.5	72	45.6	0.1	0.599
No therapy	Other	Males	23.5	28	45.6	0.1	0.599
No therapy	Other	RR MS	81.5	75.3	30.3	0.204	0.371
No therapy	Other	Progressive MS	18.5	24.7	30.3	0.204	0.371
No therapy	Other	EDSS	2.795	3.217	2.081	0.203	0.291
No therapy	Other	Disease duration	11.823	12.682	8.627	0.1	0.589
No therapy	Other	BMI	23.385	23.051	4.553	0.073	0.704
No therapy	Other	No comorbidities	78.5	79.7	39.7	0.029	0.88
No therapy	Other	Comorbidities	21.5	20.3	39.7	0.029	0.88
No therapy	Other	No Methylprednisolone	96.2	95.2	15.5	0.065	0.794
No therapy	Other	Methylprednisolone	3.8	4.8	15.5	0.065	0.794
Interferon	Glatiramer Acetate	Age	46.431	45.859	12.059	0.047	0.806
Interferon	Glatiramer Acetate	Females	76.4	73.9	45.6	0.055	0.737
Interferon	Glatiramer Acetate	Males	23.6	26.1	45.6	0.055	0.737
Interferon	Glatiramer Acetate	RR MS	91.3	88.2	30.3	0.102	0.628
Interferon	Glatiramer Acetate	Progressive MS	8.7	11.8	30.3	0.102	0.628
Interferon	Glatiramer Acetate	EDSS	2.493	2.531	2.081	0.018	0.929
Interferon	Glatiramer Acetate	Disease duration	11.354	11.564	8.627	0.024	0.894
Interferon	Glatiramer Acetate	BMI	23.626	23.884	4.553	0.057	0.746
Interferon	Glatiramer Acetate	No comorbidities	76.6	82.7	39.7	0.154	0.379
Interferon	Glatiramer Acetate	Comorbidities	23.4	17.3	39.7	0.154	0.379
Interferon	Glatiramer Acetate	No Methylprednisolone	96.7	98.7	15.5	0.123	0.473
Interferon	Glatiramer Acetate	Methylprednisolone	3.3	1.3	15.5	0.123	0.473
Interferon	Teriflunomide	Age	46.431	45.472	12.059	0.08	0.67
Interferon	Teriflunomide	Females	76.4	71.9	45.6	0.1	0.572

Interferon	Teriflunomide	Males	23.6	28.1	45.6	0.1	0.572
Interferon	Teriflunomide	RR MS	91.3	92.6	30.3	0.044	0.815
Interferon	Teriflunomide	Progressive MS	8.7	7.4	30.3	0.044	0.815
Interferon	Teriflunomide	EDSS	2.493	2.471	2.081	0.011	0.955
Interferon	Teriflunomide	Disease duration	11.354	11.049	8.627	0.035	0.841
Interferon	Teriflunomide	BMI	23.626	23.608	4.553	0.004	0.983
Interferon	Teriflunomide	No comorbidities	76.6	77.4	39.7	0.02	0.916
Interferon	Teriflunomide	Comorbidities	23.4	22.6	39.7	0.02	0.916
Interferon	Teriflunomide	No Methylprednisolone	96.7	97.5	15.5	0.048	0.81
Interferon	Teriflunomide	Methylprednisolone	3.3	2.5	15.5	0.048	0.81
Interferon	Dimethyl Fumarate	Age	46.431	44.322	12.059	0.175	0.265
Interferon	Dimethyl Fumarate	Females	76.4	68.3	45.6	0.178	0.234
Interferon	Dimethyl Fumarate	Males	23.6	31.7	45.6	0.178	0.234
Interferon	Dimethyl Fumarate	RR MS	91.3	87.2	30.3	0.134	0.486
Interferon	Dimethyl Fumarate	Progressive MS	8.7	12.8	30.3	0.134	0.486
Interferon	Dimethyl Fumarate	EDSS	2.493	2.68	2.081	0.09	0.64
Interferon	Dimethyl Fumarate	Disease duration	11.354	11.398	8.627	0.005	0.974
Interferon	Dimethyl Fumarate	BMI	23.626	23.498	4.553	0.028	0.864
Interferon	Dimethyl Fumarate	No comorbidities	76.6	80.7	39.7	0.103	0.54
Interferon	Dimethyl Fumarate	Comorbidities	23.4	19.3	39.7	0.103	0.54
Interferon	Dimethyl Fumarate	No Methylprednisolone	96.7	98	15.5	0.081	0.609
Interferon	Dimethyl Fumarate	Methylprednisolone	3.3	2	15.5	0.081	0.609
Interferon	Fingolimod	Age	46.431	41.461	12.059	0.412	0.015
Interferon	Fingolimod	Females	76.4	74.6	45.6	0.039	0.812
Interferon	Fingolimod	Males	23.6	25.4	45.6	0.039	0.812
Interferon	Fingolimod	RR MS	91.3	97.4	30.3	0.202	0.218
Interferon	Fingolimod	Progressive MS	8.7	2.6	30.3	0.202	0.218
Interferon	Fingolimod	EDSS	2.493	2.486	2.081	0.003	0.984
Interferon	Fingolimod	Disease duration	11.354	10.252	8.627	0.128	0.437
Interferon	Fingolimod	BMI	23.626	23.474	4.553	0.033	0.853
Interferon	Fingolimod	No comorbidities	76.6	81.1	39.7	0.114	0.551
Interferon	Fingolimod	Comorbidities	23.4	18.9	39.7	0.114	0.551
Interferon	Fingolimod	No Methylprednisolone	96.7	98.7	15.5	0.126	0.459
Interferon	Fingolimod	Methylprednisolone	3.3	1.3	15.5	0.126	0.459
Interferon	Natalizumab	Age	46.431	43.729	12.059	0.224	0.175
Interferon	Natalizumab	Females	76.4	74.4	45.6	0.045	0.778
Interferon	Natalizumab	Males	23.6	25.6	45.6	0.045	0.778
Interferon	Natalizumab	RR MS	91.3	88.7	30.3	0.085	0.605
Interferon	Natalizumab	Progressive MS	8.7	11.3	30.3	0.085	0.605

Interferon	Natalizumab	EDSS	2.493	2.609	2.081	0.056	0.736
Interferon	Natalizumab	Disease duration	11.354	11.746	8.627	0.045	0.78
Interferon	Natalizumab	BMI	23.626	23.659	4.553	0.007	0.963
Interferon	Natalizumab	No comorbidities	76.6	79.1	39.7	0.064	0.714
Interferon	Natalizumab	Comorbidities	23.4	20.9	39.7	0.064	0.714
Interferon	Natalizumab	No Methylprednisolone	96.7	97	15.5	0.017	0.928
Interferon	Natalizumab	Methylprednisolone	3.3	3	15.5	0.017	0.928
Interferon	AntiCD20	Age	46.431	42.228	12.059	0.349	0.035
Interferon	AntiCD20	Females	76.4	68.6	45.6	0.172	0.303
Interferon	AntiCD20	Males	23.6	31.4	45.6	0.172	0.303
Interferon	AntiCD20	RR MS	91.3	83.5	30.3	0.258	0.154
Interferon	AntiCD20	Progressive MS	8.7	16.5	30.3	0.258	0.154
Interferon	AntiCD20	EDSS	2.493	2.716	2.081	0.107	0.531
Interferon	AntiCD20	Disease duration	11.354	10.481	8.627	0.101	0.527
Interferon	AntiCD20	BMI	23.626	22.768	4.553	0.188	0.232
Interferon	AntiCD20	No comorbidities	76.6	83.7	39.7	0.179	0.267
Interferon	AntiCD20	Comorbidities	23.4	16.3	39.7	0.179	0.267
Interferon	AntiCD20	No Methylprednisolone	96.7	98.6	15.5	0.118	0.506
Interferon	AntiCD20	Methylprednisolone	3.3	1.4	15.5	0.118	0.506
Interferon	Other	Age	46.431	44.002	12.059	0.201	0.335
Interferon	Other	Females	76.4	72	45.6	0.098	0.629
Interferon	Other	Males	23.6	28	45.6	0.098	0.629
Interferon	Other	RR MS	91.3	75.3	30.3	0.527	0.03
Interferon	Other	Progressive MS	8.7	24.7	30.3	0.527	0.03
Interferon	Other	EDSS	2.493	3.217	2.081	0.348	0.114
Interferon	Other	Disease duration	11.354	12.682	8.627	0.154	0.45
Interferon	Other	BMI	23.626	23.051	4.553	0.126	0.56
Interferon	Other	No comorbidities	76.6	79.7	39.7	0.078	0.72
Interferon	Other	Comorbidities	23.4	20.3	39.7	0.078	0.72
Interferon	Other	No Methylprednisolone	96.7	95.2	15.5	0.098	0.73
Interferon	Other	Methylprednisolone	3.3	4.8	15.5	0.098	0.73
Glatiramer Acetate	Teriflunomide	Age	45.859	45.472	12.059	0.032	0.871
Glatiramer Acetate	Teriflunomide	Females	73.9	71.9	45.6	0.045	0.805
Glatiramer Acetate	Teriflunomide	Males	26.1	28.1	45.6	0.045	0.805
Glatiramer Acetate	Teriflunomide	RR MS	88.2	92.6	30.3	0.146	0.525
Glatiramer Acetate	Teriflunomide	Progressive MS	11.8	7.4	30.3	0.146	0.525
Glatiramer Acetate	Teriflunomide	EDSS	2.531	2.471	2.081	0.029	0.886
Glatiramer Acetate	Teriflunomide	Disease duration	11.564	11.049	8.627	0.06	0.745
Glatiramer Acetate	Teriflunomide	BMI	23.884	23.608	4.553	0.061	0.73
Glatiramer Acetate	Teriflunomide	No comorbidities	82.7	77.4	39.7	0.134	0.432
Glatiramer Acetate	Teriflunomide	Comorbidities	17.3	22.6	39.7	0.134	0.432

Glatiramer Acetate	Teriflunomide	No Methylprednisolone	98.7	97.5	15.5	0.075	0.611
Glatiramer Acetate	Teriflunomide	Methylprednisolone	1.3	2.5	15.5	0.075	0.611
Glatiramer Acetate	Dimethyl Fumarate	Age	45.859	44.322	12.059	0.128	0.454
Glatiramer Acetate	Dimethyl Fumarate	Females	73.9	68.3	45.6	0.123	0.422
Glatiramer Acetate	Dimethyl Fumarate	Males	26.1	31.7	45.6	0.123	0.422
Glatiramer Acetate	Dimethyl Fumarate	RR MS	88.2	87.2	30.3	0.032	0.894
Glatiramer Acetate	Dimethyl Fumarate	Progressive MS	11.8	12.8	30.3	0.032	0.894
Glatiramer Acetate	Dimethyl Fumarate	EDSS	2.531	2.68	2.081	0.072	0.73
Glatiramer Acetate	Dimethyl Fumarate	Disease duration	11.564	11.398	8.627	0.019	0.905
Glatiramer Acetate	Dimethyl Fumarate	BMI	23.884	23.498	4.553	0.085	0.591
Glatiramer Acetate	Dimethyl Fumarate	No comorbidities	82.7	80.7	39.7	0.051	0.737
Glatiramer Acetate	Dimethyl Fumarate	Comorbidities	17.3	19.3	39.7	0.051	0.737
Glatiramer Acetate	Dimethyl Fumarate	No Methylprednisolone	98.7	98	15.5	0.043	0.721
Glatiramer Acetate	Dimethyl Fumarate	Methylprednisolone	1.3	2	15.5	0.043	0.721
Glatiramer Acetate	Fingolimod	Age	45.859	41.461	12.059	0.365	0.045
Glatiramer Acetate	Fingolimod	Females	73.9	74.6	45.6	0.016	0.924
Glatiramer Acetate	Fingolimod	Males	26.1	25.4	45.6	0.016	0.924
Glatiramer Acetate	Fingolimod	RR MS	88.2	97.4	30.3	0.304	0.12
Glatiramer Acetate	Fingolimod	Progressive MS	11.8	2.6	30.3	0.304	0.12
Glatiramer Acetate	Fingolimod	EDSS	2.531	2.486	2.081	0.022	0.908
Glatiramer Acetate	Fingolimod	Disease duration	11.564	10.252	8.627	0.152	0.376
Glatiramer Acetate	Fingolimod	BMI	23.884	23.474	4.553	0.09	0.604
Glatiramer Acetate	Fingolimod	No comorbidities	82.7	81.1	39.7	0.04	0.817
Glatiramer Acetate	Fingolimod	Comorbidities	17.3	18.9	39.7	0.04	0.817
Glatiramer Acetate	Fingolimod	No Methylprednisolone	98.7	98.7	15.5	0.002	0.986
Glatiramer Acetate	Fingolimod	Methylprednisolone	1.3	1.3	15.5	0.002	0.986
Glatiramer Acetate	Natalizumab	Age	45.859	43.729	12.059	0.177	0.322
Glatiramer Acetate	Natalizumab	Females	73.9	74.4	45.6	0.011	0.948

Glatiramer Acetate	Natalizumab	Males	26.1	25.6	45.6	0.011	0.948
Glatiramer Acetate	Natalizumab	RR MS	88.2	88.7	30.3	0.017	0.937
Glatiramer Acetate	Natalizumab	Progressive MS	11.8	11.3	30.3	0.017	0.937
Glatiramer Acetate	Natalizumab	EDSS	2.531	2.609	2.081	0.037	0.838
Glatiramer Acetate	Natalizumab	Disease duration	11.564	11.746	8.627	0.021	0.901
Glatiramer Acetate	Natalizumab	BMI	23.884	23.659	4.553	0.05	0.743
Glatiramer Acetate	Natalizumab	No comorbidities	82.7	79.1	39.7	0.09	0.565
Glatiramer Acetate	Natalizumab	Comorbidities	17.3	20.9	39.7	0.09	0.565
Glatiramer Acetate	Natalizumab	No Methylprednisolone	98.7	97	15.5	0.106	0.462
Glatiramer Acetate	Natalizumab	Methylprednisolone	1.3	3	15.5	0.106	0.462
Glatiramer Acetate	AntiCD20	Age	45.859	42.228	12.059	0.301	0.091
Glatiramer Acetate	AntiCD20	Females	73.9	68.6	45.6	0.117	0.494
Glatiramer Acetate	AntiCD20	Males	26.1	31.4	45.6	0.117	0.494
Glatiramer Acetate	AntiCD20	RR MS	88.2	83.5	30.3	0.156	0.504
Glatiramer Acetate	AntiCD20	Progressive MS	11.8	16.5	30.3	0.156	0.504
Glatiramer Acetate	AntiCD20	EDSS	2.531	2.716	2.081	0.089	0.635
Glatiramer Acetate	AntiCD20	Disease duration	11.564	10.481	8.627	0.126	0.453
Glatiramer Acetate	AntiCD20	BMI	23.884	22.768	4.553	0.245	0.106
Glatiramer Acetate	AntiCD20	No comorbidities	82.7	83.7	39.7	0.025	0.862
Glatiramer Acetate	AntiCD20	Comorbidities	17.3	16.3	39.7	0.025	0.862
Glatiramer Acetate	AntiCD20	No Methylprednisolone	98.7	98.6	15.5	0.006	0.965
Glatiramer Acetate	AntiCD20	Methylprednisolone	1.3	1.4	15.5	0.006	0.965
Glatiramer Acetate	Other	Age	45.859	44.002	12.059	0.154	0.482
Glatiramer Acetate	Other	Females	73.9	72	45.6	0.043	0.837
Glatiramer Acetate	Other	Males	26.1	28	45.6	0.043	0.837
Glatiramer Acetate	Other	RR MS	88.2	75.3	30.3	0.426	0.161
Glatiramer Acetate	Other	Progressive MS	11.8	24.7	30.3	0.426	0.161
Glatiramer Acetate	Other	EDSS	2.531	3.217	2.081	0.329	0.157

Glatiramer Acetate	Other	Disease duration	11.564	12.682	8.627	0.13	0.536
Glatiramer Acetate	Other	BMI	23.884	23.051	4.553	0.183	0.389
Glatiramer Acetate	Other	No comorbidities	82.7	79.7	39.7	0.076	0.7
Glatiramer Acetate	Other	Comorbidities	17.3	20.3	39.7	0.076	0.7
Glatiramer Acetate	Other	No Methylprednisolone	98.7	95.2	15.5	0.222	0.291
Glatiramer Acetate	Other	Methylprednisolone	1.3	4.8	15.5	0.222	0.291
Teriflunomide	Dimethyl Fumarate	Age	45.472	44.322	12.059	0.095	0.559
Teriflunomide	Dimethyl Fumarate	Females	71.9	68.3	45.6	0.078	0.641
Teriflunomide	Dimethyl Fumarate	Males	28.1	31.7	45.6	0.078	0.641
Teriflunomide	Dimethyl Fumarate	RR MS	92.6	87.2	30.3	0.178	0.413
Teriflunomide	Dimethyl Fumarate	Progressive MS	7.4	12.8	30.3	0.178	0.413
Teriflunomide	Dimethyl Fumarate	EDSS	2.471	2.68	2.081	0.101	0.596
Teriflunomide	Dimethyl Fumarate	Disease duration	11.049	11.398	8.627	0.04	0.796
Teriflunomide	Dimethyl Fumarate	BMI	23.608	23.498	4.553	0.024	0.883
Teriflunomide	Dimethyl Fumarate	No comorbidities	77.4	80.7	39.7	0.083	0.612
Teriflunomide	Dimethyl Fumarate	Comorbidities	22.6	19.3	39.7	0.083	0.612
Teriflunomide	Dimethyl Fumarate	No Methylprednisolone	97.5	98	15.5	0.032	0.807
Teriflunomide	Dimethyl Fumarate	Methylprednisolone	2.5	2	15.5	0.032	0.807
Teriflunomide	Fingolimod	Age	45.472	41.461	12.059	0.333	0.058
Teriflunomide	Fingolimod	Females	71.9	74.6	45.6	0.061	0.737
Teriflunomide	Fingolimod	Males	28.1	25.4	45.6	0.061	0.737
Teriflunomide	Fingolimod	RR MS	92.6	97.4	30.3	0.158	0.33
Teriflunomide	Fingolimod	Progressive MS	7.4	2.6	30.3	0.158	0.33
Teriflunomide	Fingolimod	EDSS	2.471	2.486	2.081	0.007	0.966
Teriflunomide	Fingolimod	Disease duration	11.049	10.252	8.627	0.092	0.579
Teriflunomide	Fingolimod	BMI	23.608	23.474	4.553	0.029	0.87
Teriflunomide	Fingolimod	No comorbidities	77.4	81.1	39.7	0.094	0.615
Teriflunomide	Fingolimod	Comorbidities	22.6	18.9	39.7	0.094	0.615
Teriflunomide	Fingolimod	No Methylprednisolone	97.5	98.7	15.5	0.077	0.596
Teriflunomide	Fingolimod	Methylprednisolone	2.5	1.3	15.5	0.077	0.596
Teriflunomide	Natalizumab	Age	45.472	43.729	12.059	0.145	0.399
Teriflunomide	Natalizumab	Females	71.9	74.4	45.6	0.055	0.752
Teriflunomide	Natalizumab	Males	28.1	25.6	45.6	0.055	0.752
Teriflunomide	Natalizumab	RR MS	92.6	88.7	30.3	0.129	0.503
Teriflunomide	Natalizumab	Progressive MS	7.4	11.3	30.3	0.129	0.503




Teriflunomide	Natalizumab	EDSS	2.471	2.609	2.081	0.066	0.682
Teriflunomide	Natalizumab	Disease duration	11.049	11.746	8.627	0.081	0.623
Teriflunomide	Natalizumab	BMI	23.608	23.659	4.553	0.011	0.944
Teriflunomide	Natalizumab	No comorbidities	77.4	79.1	39.7	0.044	0.796
Teriflunomide	Natalizumab	Comorbidities	22.6	20.9	39.7	0.044	0.796
Teriflunomide	Natalizumab	No Methylprednisolone	97.5	97	15.5	0.031	0.844
Teriflunomide	Natalizumab	Methylprednisolone	2.5	3	15.5	0.031	0.844
Teriflunomide	AntiCD20	Age	45.472	42.228	12.059	0.269	0.116
Teriflunomide	AntiCD20	Females	71.9	68.6	45.6	0.072	0.696
Teriflunomide	AntiCD20	Males	28.1	31.4	45.6	0.072	0.696
Teriflunomide	AntiCD20	RR MS	92.6	83.5	30.3	0.302	0.167
Teriflunomide	AntiCD20	Progressive MS	7.4	16.5	30.3	0.302	0.167
Teriflunomide	AntiCD20	EDSS	2.471	2.716	2.081	0.118	0.482
Teriflunomide	AntiCD20	Disease duration	11.049	10.481	8.627	0.066	0.684
Teriflunomide	AntiCD20	BMI	23.608	22.768	4.553	0.185	0.243
Teriflunomide	AntiCD20	No comorbidities	77.4	83.7	39.7	0.159	0.312
Teriflunomide	AntiCD20	Comorbidities	22.6	16.3	39.7	0.159	0.312
Teriflunomide	AntiCD20	No Methylprednisolone	97.5	98.6	15.5	0.07	0.648
Teriflunomide	AntiCD20	Methylprednisolone	2.5	1.4	15.5	0.07	0.648
Teriflunomide	Other	Age	45.472	44.002	12.059	0.122	0.569
Teriflunomide	Other	Females	71.9	72	45.6	0.002	0.992
Teriflunomide	Other	Males	28.1	28	45.6	0.002	0.992
Teriflunomide	Other	RR MS	92.6	75.3	30.3	0.571	0.042
Teriflunomide	Other	Progressive MS	7.4	24.7	30.3	0.571	0.042
Teriflunomide	Other	EDSS	2.471	3.217	2.081	0.359	0.099
Teriflunomide	Other	Disease duration	11.049	12.682	8.627	0.189	0.357
Teriflunomide	Other	BMI	23.608	23.051	4.553	0.122	0.573
Teriflunomide	Other	No comorbidities	77.4	79.7	39.7	0.058	0.785
Teriflunomide	Other	Comorbidities	22.6	20.3	39.7	0.058	0.785
Teriflunomide	Other	No Methylprednisolone	97.5	95.2	15.5	0.146	0.549
Teriflunomide	Other	Methylprednisolone	2.5	4.8	15.5	0.146	0.549
Dimethyl Fumarate	Fingolimod	Age	44.322	41.461	12.059	0.237	0.095
Dimethyl Fumarate	Fingolimod	Females	68.3	74.6	45.6	0.139	0.366
Dimethyl Fumarate	Fingolimod	Males	31.7	25.4	45.6	0.139	0.366
Dimethyl Fumarate	Fingolimod	RR MS	87.2	97.4	30.3	0.337	0.083
Dimethyl Fumarate	Fingolimod	Progressive MS	12.8	2.6	30.3	0.337	0.083
Dimethyl Fumarate	Fingolimod	EDSS	2.68	2.486	2.081	0.093	0.594
Dimethyl Fumarate	Fingolimod	Disease duration	11.398	10.252	8.627	0.133	0.352
Dimethyl Fumarate	Fingolimod	BMI	23.498	23.474	4.553	0.005	0.974
Dimethyl Fumarate	Fingolimod	No comorbidities	80.7	81.1	39.7	0.011	0.947
Dimethyl Fumarate	Fingolimod	Comorbidities	19.3	18.9	39.7	0.011	0.947


Dimethyl Fumarate	Fingolimod	No Methylprednisolone	98	98.7	15.5	0.045	0.704
Dimethyl Fumarate	Fingolimod	Methylprednisolone	2	1.3	15.5	0.045	0.704
Dimethyl Fumarate	Natalizumab	Age	44.322	43.729	12.059	0.049	0.722
Dimethyl Fumarate	Natalizumab	Females	68.3	74.4	45.6	0.133	0.36
Dimethyl Fumarate	Natalizumab	Males	31.7	25.6	45.6	0.133	0.36
Dimethyl Fumarate	Natalizumab	RR MS	87.2	88.7	30.3	0.049	0.793
Dimethyl Fumarate	Natalizumab	Progressive MS	12.8	11.3	30.3	0.049	0.793
Dimethyl Fumarate	Natalizumab	EDSS	2.68	2.609	2.081	0.034	0.838
Dimethyl Fumarate	Natalizumab	Disease duration	11.398	11.746	8.627	0.04	0.774
Dimethyl Fumarate	Natalizumab	BMI	23.498	23.659	4.553	0.035	0.798
Dimethyl Fumarate	Natalizumab	No comorbidities	80.7	79.1	39.7	0.039	0.792
Dimethyl Fumarate	Natalizumab	Comorbidities	19.3	20.9	39.7	0.039	0.792
Dimethyl Fumarate	Natalizumab	No Methylprednisolone	98	97	15.5	0.064	0.584
Dimethyl Fumarate	Natalizumab	Methylprednisolone	2	3	15.5	0.064	0.584
Dimethyl Fumarate	AntiCD20	Age	44.322	42.228	12.059	0.174	0.206
Dimethyl Fumarate	AntiCD20	Females	68.3	68.6	45.6	0.006	0.969
Dimethyl Fumarate	AntiCD20	Males	31.7	31.4	45.6	0.006	0.969
Dimethyl Fumarate	AntiCD20	RR MS	87.2	83.5	30.3	0.124	0.538
Dimethyl Fumarate	AntiCD20	Progressive MS	12.8	16.5	30.3	0.124	0.538
Dimethyl Fumarate	AntiCD20	EDSS	2.68	2.716	2.081	0.017	0.919
Dimethyl Fumarate	AntiCD20	Disease duration	11.398	10.481	8.627	0.106	0.44
Dimethyl Fumarate	AntiCD20	BMI	23.498	22.768	4.553	0.16	0.244
Dimethyl Fumarate	AntiCD20	No comorbidities	80.7	83.7	39.7	0.076	0.583
Dimethyl Fumarate	AntiCD20	Comorbidities	19.3	16.3	39.7	0.076	0.583
Dimethyl Fumarate	AntiCD20	No Methylprednisolone	98	98.6	15.5	0.037	0.763
Dimethyl Fumarate	AntiCD20	Methylprednisolone	2	1.4	15.5	0.037	0.763
Dimethyl Fumarate	Other	Age	44.322	44.002	12.059	0.027	0.887
Dimethyl Fumarate	Other	Females	68.3	72	45.6	0.08	0.686


Dimethyl Fumarate	Other	Males	31.7	28	45.6	0.08	0.686
Dimethyl Fumarate	Other	RR MS	87.2	75.3	30.3	0.393	0.145
Dimethyl Fumarate	Other	Progressive MS	12.8	24.7	30.3	0.393	0.145
Dimethyl Fumarate	Other	EDSS	2.68	3.217	2.081	0.258	0.241
Dimethyl Fumarate	Other	Disease duration	11.398	12.682	8.627	0.149	0.424
Dimethyl Fumarate	Other	BMI	23.498	23.051	4.553	0.098	0.627
Dimethyl Fumarate	Other	No comorbidities	80.7	79.7	39.7	0.025	0.898
Dimethyl Fumarate	Other	Comorbidities	19.3	20.3	39.7	0.025	0.898
Dimethyl Fumarate	Other	No Methylprednisolone	98	95.2	15.5	0.179	0.353
Dimethyl Fumarate	Other	Methylprednisolone	2	4.8	15.5	0.179	0.353
Fingolimod	Natalizumab	Age	41.461	43.729	12.059	0.188	0.213
Fingolimod	Natalizumab	Females	74.6	74.4	45.6	0.006	0.973
Fingolimod	Natalizumab	Males	25.4	25.6	45.6	0.006	0.973
Fingolimod	Natalizumab	RR MS	97.4	88.7	30.3	0.288	0.106
Fingolimod	Natalizumab	Progressive MS	2.6	11.3	30.3	0.288	0.106
Fingolimod	Natalizumab	EDSS	2.486	2.609	2.081	0.059	0.683
Fingolimod	Natalizumab	Disease duration	10.252	11.746	8.627	0.173	0.253
Fingolimod	Natalizumab	BMI	23.474	23.659	4.553	0.041	0.795
Fingolimod	Natalizumab	No comorbidities	81.1	79.1	39.7	0.05	0.771
Fingolimod	Natalizumab	Comorbidities	18.9	20.9	39.7	0.05	0.771
Fingolimod	Natalizumab	No Methylprednisolone	98.7	97	15.5	0.109	0.446
Fingolimod	Natalizumab	Methylprednisolone	1.3	3	15.5	0.109	0.446
Fingolimod	AntiCD20	Age	41.461	42.228	12.059	0.064	0.671
Fingolimod	AntiCD20	Females	74.6	68.6	45.6	0.133	0.438
Fingolimod	AntiCD20	Males	25.4	31.4	45.6	0.133	0.438
Fingolimod	AntiCD20	RR MS	97.4	83.5	30.3	0.46	0.027
Fingolimod	AntiCD20	Progressive MS	2.6	16.5	30.3	0.46	0.027
Fingolimod	AntiCD20	EDSS	2.486	2.716	2.081	0.111	0.464
Fingolimod	AntiCD20	Disease duration	10.252	10.481	8.627	0.027	0.858
Fingolimod	AntiCD20	BMI	23.474	22.768	4.553	0.155	0.319
Fingolimod	AntiCD20	No comorbidities	81.1	83.7	39.7	0.065	0.684
Fingolimod	AntiCD20	Comorbidities	18.9	16.3	39.7	0.065	0.684
Fingolimod	AntiCD20	No Methylprednisolone	98.7	98.6	15.5	0.008	0.95
Fingolimod	AntiCD20	Methylprednisolone	1.3	1.4	15.5	0.008	0.95
Fingolimod	Other	Age	41.461	44.002	12.059	0.211	0.287
Fingolimod	Other	Females	74.6	72	45.6	0.059	0.777
Fingolimod	Other	Males	25.4	28	45.6	0.059	0.777
Fingolimod	Other	RR MS	97.4	75.3	30.3	0.73	0.005
Fingolimod	Other	Progressive MS	2.6	24.7	30.3	0.73	0.005
Fingolimod	Other	EDSS	2.486	3.217	2.081	0.351	0.086
Fingolimod	Other	Disease duration	10.252	12.682	8.627	0.282	0.149

Fingolimod	Other	BMI	23.474	23.051	4.553	0.093	0.666
Fingolimod	Other	No comorbidities	81.1	79.7	39.7	0.036	0.865
Fingolimod	Other	Comorbidities	18.9	20.3	39.7	0.036	0.865
Fingolimod	Other	No Methylprednisolone	98.7	95.2	15.5	0.224	0.279
Fingolimod	Other	Methylprednisolone	1.3	4.8	15.5	0.224	0.279
Natalizumab	AntiCD20	Age	43.729	42.228	12.059	0.124	0.396
Natalizumab	AntiCD20	Females	74.4	68.6	45.6	0.127	0.438
Natalizumab	AntiCD20	Males	25.6	31.4	45.6	0.127	0.438
Natalizumab	AntiCD20	RR MS	88.7	83.5	30.3	0.172	0.284
Natalizumab	AntiCD20	Progressive MS	11.3	16.5	30.3	0.172	0.284
Natalizumab	AntiCD20	EDSS	2.609	2.716	2.081	0.052	0.716
Natalizumab	AntiCD20	Disease duration	11.746	10.481	8.627	0.147	0.317
Natalizumab	AntiCD20	BMI	23.659	22.768	4.553	0.196	0.133
Natalizumab	AntiCD20	No comorbidities	79.1	83.7	39.7	0.116	0.421
Natalizumab	AntiCD20	Comorbidities	20.9	16.3	39.7	0.116	0.421
Natalizumab	AntiCD20	No Methylprednisolone	97	98.6	15.5	0.101	0.498
Natalizumab	AntiCD20	Methylprednisolone	3	1.4	15.5	0.101	0.498
Natalizumab	Other	Age	43.729	44.002	12.059	0.023	0.907
Natalizumab	Other	Females	74.4	72	45.6	0.053	0.792
Natalizumab	Other	Males	25.6	28	45.6	0.053	0.792
Natalizumab	Other	RR MS	88.7	75.3	30.3	0.442	0.052
Natalizumab	Other	Progressive MS	11.3	24.7	30.3	0.442	0.052
Natalizumab	Other	EDSS	2.609	3.217	2.081	0.292	0.138
Natalizumab	Other	Disease duration	11.746	12.682	8.627	0.109	0.574
Natalizumab	Other	BMI	23.659	23.051	4.553	0.133	0.499
Natalizumab	Other	No comorbidities	79.1	79.7	39.7	0.015	0.942
Natalizumab	Other	Comorbidities	20.9	20.3	39.7	0.015	0.942
Natalizumab	Other	No Methylprednisolone	97	95.2	15.5	0.115	0.616
Natalizumab	Other	Methylprednisolone	3	4.8	15.5	0.115	0.616
AntiCD20	Other	Age	42.228	44.002	12.059	0.147	0.449
AntiCD20	Other	Females	68.6	72	45.6	0.074	0.728
AntiCD20	Other	Males	31.4	28	45.6	0.074	0.728
AntiCD20	Other	RR MS	83.5	75.3	30.3	0.27	0.257
AntiCD20	Other	Progressive MS	16.5	24.7	30.3	0.27	0.257
AntiCD20	Other	EDSS	2.716	3.217	2.081	0.24	0.234
AntiCD20	Other	Disease duration	10.481	12.682	8.627	0.255	0.182
AntiCD20	Other	BMI	22.768	23.051	4.553	0.062	0.752
AntiCD20	Other	No comorbidities	83.7	79.7	39.7	0.101	0.583
AntiCD20	Other	Comorbidities	16.3	20.3	39.7	0.101	0.583
AntiCD20	Other	No Methylprednisolone	98.6	95.2	15.5	0.216	0.317
AntiCD20	Other	Methylprednisolone	1.4	4.8	15.5	0.216	0.317

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- Monitor MS patients with COVID-19 infection.
- Reminder: Any cases of confirmed/suspected COVID-19 infections in patients with MS receiving any disease-modifying therapy should follow the spontaneous Adverse Event (AE) reporting requirements as defined by local regulations.

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