

Evaluating the economic burden of relapses in Neuromyelitis Optica Spectrum Disorder: a real-world analysis using German claims data

SUPPLEMENTARY MATERIAL

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Supplementary Table 1 List of reported treatments for NMOSD and related agents

Name of Agent	ATC Code(s)
Acute Treatment	
1. Intravenous Corticosteroids	H02 (corticosteroids) (ATC code) – intravenous
2. Intravenous Immunoglobulin (IVIG)	J06B (ATC); 8-810.w (OPS)
3. Plasma Exchange (PLEX)	8-820 (OPS code)
NMOSD Maintenance Therapies	
1. Oral Steroids	H02 (corticosteroids) (ATC code) – oral
2. Immunosuppressant therapies (IST)	
a. Azathioprine	L04AX01 (ATC code)
b. Mitoxantrone	L01DB07 (ATC code)
c. Mycophenolate Mofetil	L04AA06 (ATC code)
d. Methotrexate	L01BA01; L04AX03 (ATC code)
e. Cyclophosphamide	L01AA01 (ATC code)
3. B-Cell Targeting Therapy (anti-CD20)	
a. Ocrelizumab	L04AA36 (ATC code); 6-00a.e
b. Ofatumumab	L01XC10 (ATC code); 6-006.4 (OPS code)
c. Rituximab	L01XC02 (ATC code) ; 6-001.h; 6-001.j (OPS code)
4. Tocilizumab	L04AC07 (ATC code); 6-005.m; 6-005.n 8 (OPS code)
5. Eculizumab	L04AA25 (ATC code); 6-003.h (OPS code)
Other Drugs	
1. Interferon beta-1a and 1b	L03AB07 (ATC code) and L03AB08 (ATC code)
2. Dimethyl-fumarate	L04AX07; N07XX09 (ATC code)
3. Alemtuzumab	L04AA34; L01XC04 (ATC code); 6-001.0* (OPS code)
4. Fingolimod	L04AA27 (ATC code)
5. Natalizumab	L04AA23 (ATC code) ; 6-003.f (OPS code)
6. Glatiramer acetate	L03AX13 (ATC code)
7. Peginterferon beta-1a	L03AB13 (ATC code)
8. Teriflunomide	L04AA31 (ATC code)
9. Bortezomib	L01XX32 (ATC code); 6-001.9 (OPS code)
10. Cladribine	L01BB04; L04AA40 (ATC code); 6-00a.4 (OPS code)
11. Daclizumab	L04AC01; L04AA08 (ATC code); 6-009.9 (OPS code)
12. Ozanimod	L04AA38 (ATC code)
13. Siponimod	L04AA42 (ATC code)
14. Tacrolimus	L04AD02 (ATC code)
Pain Medications	
1. Anti-inflammatory and antirheumatic drugs	M01 (ATC code)
2. Topical products for joint and muscular pain	M02 (ATC code)
3. Muscle relaxants	M03 (ATC code)

4. Anesthetic drugs	N01 (ATC code)
5. Analgesics	N02 (ATC code)
6. Antiepileptic drugs	N03A (ATC code)
7. Psycholeptics	N05 (ATC code)
8. Psychoanaleptics	N06 (ATC code)
9. Opium alkaloids and derivatives	R05DA (ATC code)

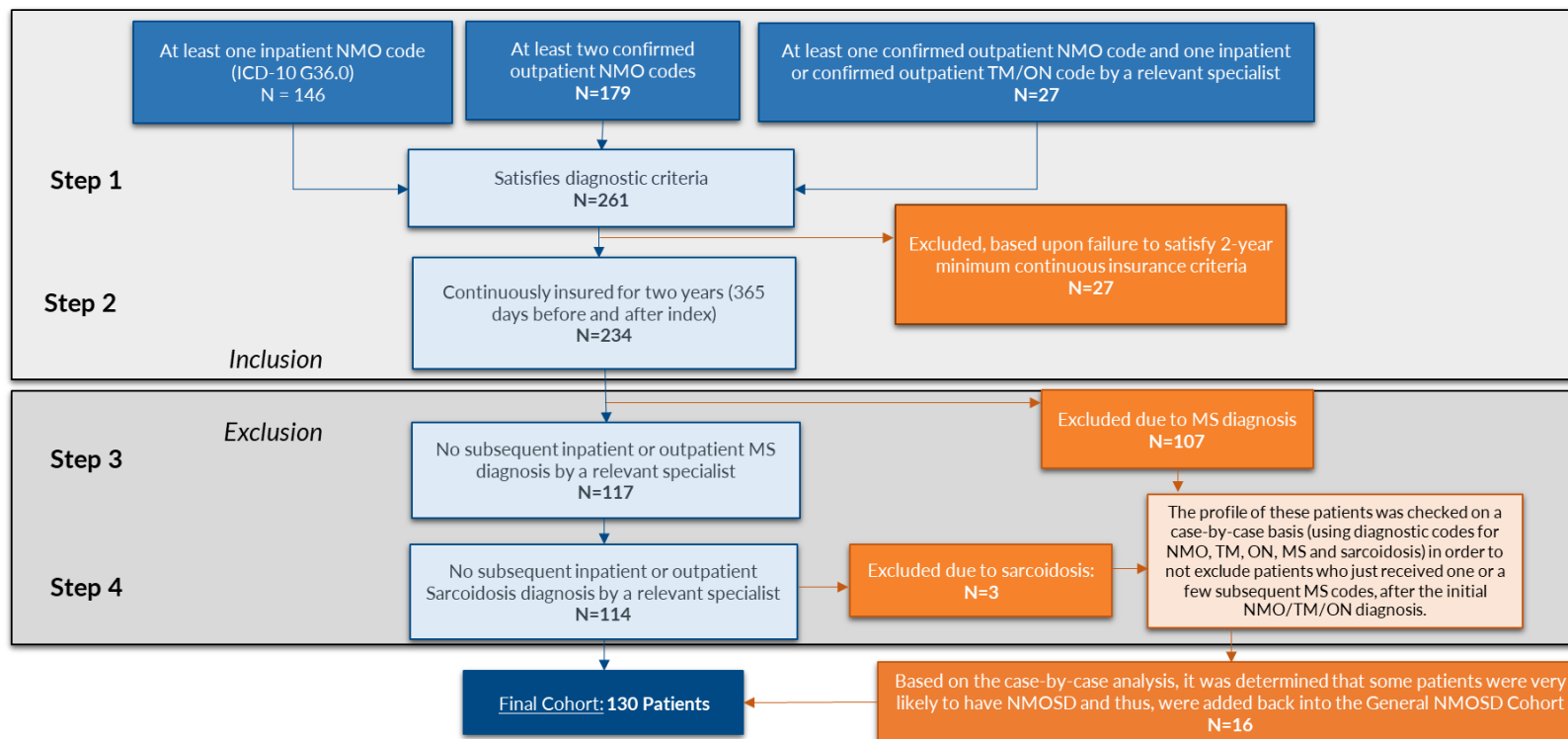
Only intravenous administrations of immunoglobulin were considered. Satralizumab and Inebilizumab were excluded from this list since they had not yet received approval by the European Medicines Agency. ATC, Anatomic Chemical Classification; IST, Immunosuppressant Therapies; IVIG, Intravenous Immunoglobulin; NMOSD, Neuromyelitis Optica Spectrum Disorder; OPS, Operational and Procedure Key; PLEX, Plasma Exchange.

Supplementary Table 2 Evaluation of the Matching Strategy

Baseline Characteristics		AOK PLUS			GWQ		
		NMOSD	Non-NMOSD	p-value	NMOSD	Non-NMOSD	p-value
Age (mean)	Unmatched	56.41	58.58	p=0.467	41.94	41.99	p=0.998
	Matched	56.41	57.32	p=0.804	41.94	43.36	p=0.636
Sex (% female)	Unmatched	0.59	0.54	p=0.530	0.57	0.49	p=0.165
	Matched	0.59	0.60	p=0.936	0.57	0.59	p=0.823
CCI Score (mean)	Unmatched	2.48	1.70	p=0.037	1.08	0.72	p=0.026
	Matched	2.48	2.82	p=0.596	1.08	1.17	p=0.797
Inpatient stays (mean at baseline)	Unmatched	1.68	0.40	p<0.001	1.10	0.32	p<0.001
	Matched	1.68	1.51	p=0.743	1.10	0.58	p=0.030
Prescriptions (mean at baseline)	Unmatched	22.27	13.31	p<0.001	5.70	6.43	p=0.540
	Matched	22.27	23.13	p=0.885	5.70	5.96	p=0.837
GP visits (mean at baseline)	Unmatched	4.82	3.40	p<0.001	2.26	2.38	p=0.596
	Matched	4.82	4.46	p=0.520	2.26	2.36	p=0.748
Specialist visits (mean at baseline)	Unmatched	17.57	9.90	p<0.001	3.71	3.14	p=0.123
	Matched	17.57	16.48	p=0.588	3.71	3.83	p=0.850

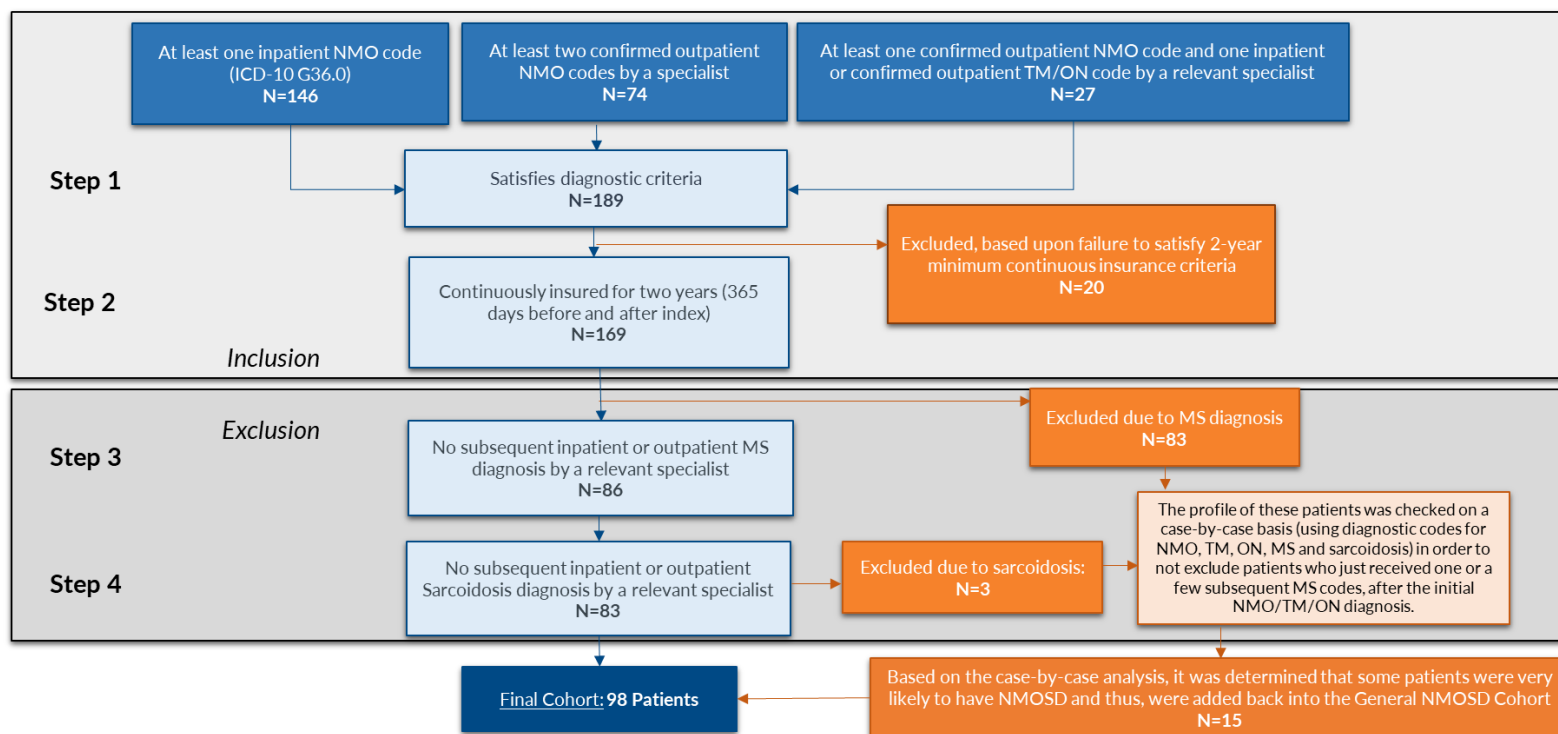
CCI, Charlson Comorbidity Index; GP, General Practitioner; Neuromyelitis Optica Spectrum Disorder, NMOSD

Supplementary Figure 1 Attrition Chart: Base Cohort of Patients with NMOSD



MS, Multiple Sclerosis; NMO, Neuromyelitis Optica; NMOSD, Neuromyelitis Optica Spectrum Disorder; ON, Optic Neuritis; Transverse Myelitis, TM.

Supplementary Figure 2 Attrition Chart: Sensitivity Cohort



MS, Multiple Sclerosis; NMO, Neuromyelitis Optica; NMOSD, Neuromyelitis Optica Spectrum Disorder; ON, Optic Neuritis; Transverse Myelitis, TM.