

Supplementary Material

Supplementary Table 1. Acute and Preventive Prescription Treatments Included in Claims Analysis.

Acute Treatment*†	Preventive Treatment**‡
Level A Evidence	
Acetaminophen	Divalproex sodium/sodium valproate
DHE nasal spray, pulmonary inhaler	Metoprolol
Aspirin	Propranolol
Diclofenac	Timolol
Ibuprofen	Topiramate
Naproxen	Petasites [§]
Almotriptan	
Eletriptan	
Frovatriptan	
Naratriptan	
Rizatriptan	
Sumatriptan PO, nasal spray, patch, SC	
Zolmitriptan PO, nasal spray	
Sumatriptan/naproxen	
Level B Evidence	
Chlorpromazine IV	Amitriptyline
DHE IV, IM, SC	Fenoprofen
Ergotamine/caffeine	Feverfew [§]
Ketorolac, IM, IV	Naproxen/naproxen sodium
Isometheptene	Venlafaxine
	Atenolol
	Nadolol

DHE=dihydroergotamine; IM=intramuscular; IV=intravenous; PO=oral; SC=subcutaneous.

*All treatments are prescription medicines and are administered orally unless otherwise indicated.

†Level A or B evidence from Marmura et al. *Headache* 2015;55:3-20.

‡Level A or B evidence from Silberstein et al. *Neurology* 2012;78:1337-45 and Holland et al. *Neurology* 2012;78:1346-53.

§Complementary/alternative medicine and may not appear in claims data.

Supplementary Table 2. Comorbidities and Concomitant Conditions in Patients With and Without CM

Condition, n (%)*	Non-CM	CM	P Value
	(SSDI-Negative) (n=44)	(SSDI-Positive) (n=64)	
Hypertension	7 (15.9)	27 (42.2)	0.004
Abdominal pain	6 (13.6)	9 (14.1)	0.95
Dizziness	8 (18.2)	6 (9.4)	0.18
Chest pain	3 (6.8)	5 (7.8)	0.99
Hyperlipidemia	11 (25.0)	17 (26.6)	0.85
Urinary tract infection	5 (11.4)	9 (14.1)	0.70
Cough	14 (31.8)	14 (21.9)	0.25
Lower back pain	6 (13.6)	19 (29.7)	0.05
Allergy	4 (9.1)	10 (15.6)	0.40
Anxiety	9 (20.5)	7 (10.9)	0.17
Depression	6 (13.6)	16 (25.0)	0.15
Pain	5 (11.4)	12 (18.8)	0.30

CM=chronic migraine; SSDI=semi-structured diagnostic interview.

*Based on claims data collected in the 12-month time period from enrollment date to 364 days before enrollment.

Supplementary Table 3. Medication Use Among Patients With and Without CM

	Non-CM	CM	P Value
	(SSDI-Negative)	(SSDI-Positive)	
Medication, n (%)*	(n=44)	(n=64)	
NSAID	15 (34.1)	33 (51.6)	0.07
Opioid	17 (38.6)	40 (62.5)	0.01
Memantine	0 (0.0)	1 (1.6)	
Butalbital	4 (9.1)	7 (10.9)	0.99 [†]
SNRI	3 (6.8)	9 (14.1)	0.35 [†]
Depakote	1 (2.3)	4 (6.3)	0.60 [†]
Depakote claims			
0	43 (97.7)	60 (93.8)	
1	1 (2.3)	2 (3.2)	
2	0 (0.0)	1 (1.6)	
3	0 (0.0)	1 (1.6)	
OnabotulinumtoxinA claims			
0	43 (97.7)	63 (98.4)	
≥1	1 (2.3)	1 (1.6)	

CM=chronic migraine; NSAID=nonsteroidal anti-inflammatory drug; SNRI=serotonin-norepinephrine reuptake inhibitor; SSDI=semi-structured diagnostic interview.

*Based on claims data collected in the 12-month time period from enrollment date to 364 days before enrollment.

[†]Fisher exact test; all other *P* values generated using chi-square.

Supplementary Table 4. Parameters for the Logistic Regression Model for Predicting Chronic Migraine Status

Parameter	DF	Estimate	Standard Error	Pr> Chi-Square
Intercept	1	-2.8573	1.0616	0.0071
Acute treatment of migraine claims (including opioids) ≥15 (reference group: <15 claims)	1	1.7691	0.7524	0.0187
Healthcare visits of any type ≥24 (reference group: <24 visits)	1	1.0307	0.4853	0.0337
Sex				
Female (reference group: male)	1	2.2154	1.0112	0.0285
Unique migraine preventive classes				
1 (reference group: 0 classes)	1	0.2542	0.5352	0.6348
≥2 (reference group: 0 classes)	1	1.4814	0.6656	0.026

DF=degrees of freedom; Pr>Chi Square=*P* value for the goodness of fit test statistic.

Supplementary Table 5. Performance Characteristics of the Claims-Based Algorithm in 106 Patients Without Any Migraine-Related OnabotulinumtoxinA Claim*

Probability Cutoff	Sensitivity	Specificity	Positive Predictive Value	Negative Predictive Value
0.40	88.9 (78.4–95.4)	51.2 (35.5–66.7)	72.7 (61.4–82.3)	75.9 (56.5–89.7)
0.45	79.4 (67.3–88.5)	72.1 (56.3–84.7)	80.7 (68.6–89.6)	70.5 (54.8–83.2)
0.50	79.4 (67.3–88.5)	72.1 (56.3–84.7)	80.7 (68.6–89.6)	70.5 (54.8–83.2)
0.55	79.4 (67.3–88.5)	72.1 (56.3–84.7)	80.7 (68.6–89.6)	70.5 (54.8–83.2)
0.60	66.7 (53.7–78.1)	76.7 (61.4–88.2)	80.8 (67.5–90.4)	61.1 (46.9–74.1)

*Regardless of whether or not a patient had a migraine-related onabotulinumtoxinA claim with a diagnosis code for another on-label onabotulinumtoxinA-treatable condition; values reported are mean (95% CI).