

Economic Burden of Invasive Meningococcal Disease in Individuals with Commercial and Medicare Insurance in the United States

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Supplemental material

Baseline Demographic and Contextual Characteristics of IMD Cases

Baseline Patient Characteristic	IMD Cases (N=618)
Age at index date (years)	
N	618
Mean (SD)	60.2 (21.6)
Median (Range)	66.0 (0.0 - 90.0)
Interquartile range	48.0 - 76.0
Age category (years)	
0-1	2 (0.3%)
2-5	11 (1.8%)
6-10	5 (0.8%)
11-15	6 (1.0%)
16-20	19 (3.1%)
21-25	24 (3.9%)
26-30	15 (2.4%)
31-35	13 (2.1%)
36-40	21 (3.4%)
41-45	24 (3.9%)
46-50	29 (4.7%)
51-55	42 (6.8%)
56-60	39 (6.3%)
61-65	51 (8.3%)
66-70	68 (11.0%)
71-75	77 (12.5%)
76-80	67 (10.8%)
81-85	67 (10.8%)
86-90	38 (6.1%)
Sex	
Male	320 (51.8%)
Female	298 (48.2%)
Census region	
Northeast	71 (11.5%)
Midwest	115 (18.6%)
South	270 (43.7%)
West	162 (26.2%)
Census division	
New England	24 (3.9%)
Middle Atlantic	47 (7.6%)
East North Central	65 (10.5%)
West North Central	50 (8.1%)
South Atlantic	144 (23.3%)
East South Central	23 (3.7%)

Baseline Patient Characteristic	IMD Cases (N=618)
West South Central	103 (16.7%)
Mountain	67 (10.8%)
Pacific	95 (15.4%)
Race/Ethnicity	
Asian	31 (5.0%)
Black	82 (13.3%)
Hispanic	74 (12.0%)
White	396 (64.1%)
Unknown	35 (5.7%)
Education level	
Less than 12th Grade	4 (0.6%)
High School Diploma	175 (28.3%)
Less than Bachelor Degree	321 (51.9%)
Bachelor Degree Plus	95 (15.4%)
Unknown	23 (3.7%)
Household income	
<\$40,000	156 (25.2%)
\$40,000-\$49,999	59 (9.5%)
\$50,000-\$59,999	42 (6.8%)
\$60,000-\$74,999	60 (9.7%)
\$75,000-\$99,999	85 (13.8%)
\$100,000+	133 (21.5%)
Unknown	83 (13.4%)
Poverty status	
Above 400% FPL	534 (86.4%)
Below 400% FPL	1 (0.2%)
Unknown	83 (13.4%)
Number of adults in household	
N	618
Mean (SD)	1.5 (1.2)
Median (Range)	1.0 (0.0 - 8.0)
Interquartile range	1.0 - 1.0
Number of children in household	
N	618
Mean (SD)	0.1 (0.6)
Median (Range)	0.0 (0.0 - 5.0)
Interquartile range	0.0 - 0.0

Acute Phase Healthcare Services Costs Among Patients who Experienced IMD (Observed Costs)

Healthcare Category	Acute Phase Costs in 2023 USD (N=618)				
	Number with Non-missing Values	Mean	Standard Deviation	Minimum	Maximum
Total Costs	618	51,452.16	90,926.34	0.00	798,672.11
Primary Care Physician Visits	235	248.26	455.73	0.00	6,050.90
Specialty Physician Visits	267	1,447.52	10,884.87	0.00	157,707.22
Emergency Department Visits	196	733.74	557.74	0.00	4,041.44
Hospitalizations	14	19,062.42	15,933.40	2,150.00	55,638.83
ICU Stays	4	35,942.74	18,441.39	18,790.58	55,638.83
Surgical Procedures	183	1,812.94	3,628.80	40.6	36,865.96
Rehabilitation Services	11	1,631.97	1,197.54	156.64	3,984.60
Dermatologic Conditions	14	28,961.18	43,101.96	9.86	158,535.16
Cardiovascular Conditions	59	25,722.97	66,225.95	5.8	420,162.24
Sensory System Deficits	95	18,631.23	80,019.77	27.84	735,458.27
Intellectual, Behavioral, Emotional, Neurological, and Psychological Disorders	217	16,340.64	29,840.48	9.86	171,117.58
Musculoskeletal Deficiencies	132	17,723.93	69,527.05	0.00	736,804.42
Motor Deficits	150	14,182.51	29,015.02	0.00	255,889.60
Abnormal Brain Activity, Other Severe Neurological Disorders	331	36,197.47	83,099.65	0.00	778,421.74
Renal Conditions	197	28,923.59	65,255.35	1.16	735,533.67
Other Physical Conditions	363	36,978.59	75,133.87	9.86	745,778.61

Post-acute Phase Healthcare Services Costs Among Patients who Experienced IMD (Observed Costs)

Healthcare Category	Post-acute Phase Costs in 2023 USD (N=545)				
	Number with Non-missing Values	Mean	Standard Deviation	Minimum	Maximum
Total Costs	497	124,774.49	310,490.50	0.00	3,230,520.73
Primary Care Physician Visits	396	2,561.40	14,895.85	5.80	292,506.52
Specialty Physician Visits	422	15,781.96	161,186.67	2.90	3,157,970.08
Emergency Department Visits	212	2,440.92	3,905.97	17.98	43,049.34
Hospitalizations	4	97,498.46	112,483.96	21,342.75	264,126.33
ICU Stays	2	30,670.88	13,191.96	21,342.75	39,999.00
Surgical Procedures	280	8,561.00	31,052.77	16.24	355,384.70
Rehabilitation Services	19	6,490.96	19,298.78	108.46	83,150.08
Dermatologic Conditions	57	5,554.21	23,796.16	51.62	170,897.46
Cardiovascular Conditions	84	26,377.50	70,064.36	25.52	417,135.27
Sensory System Deficits	153	8,904.62	16,108.81	4.06	98,932.15
Intellectual, Behavioral, Emotional, Neurological, and Psychological Disorders	303	20,169.29	51,024.61	0.00	485,973.84
Musculoskeletal Deficiencies	228	12,594.08	54,885.55	0.00	645,707.45
Motor Deficits	203	20,252.28	54,997.13	22.00	614,377.07
Abnormal Brain Activity, Other Severe Neurological Disorders	302	35,156.13	88,657.56	0.00	940,629.04
Renal Conditions	209	86,490.11	257,498.19	0.00	2,435,155.12
Other Physical Conditions	369	77,577.29	249,753.61	0.00	3,168,696.21

Abbreviations

FPL : Federal Poverty Level, IMD: Invasive Meningococcal Disease, SD: Standard Deviation, ICU = Intensive Care Unit, USD: US dollar, SD: Standar Deviation, MenACWY: Meningococcal A, C, W, and Y serogroup

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