

Supplementary Materials

Use of Ruxolitinib Cream Results in Economic Benefits Compared With Dupilumab in Treatment of Patients With Atopic Dermatitis Meeting Severity Thresholds for Systemic Therapy

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The economic model considered only medication acquisition costs, calculated by multiplying the total quantity of medication used by its unit price. The following parameters were used for estimation of total quantity used and unit price.

Supplementary Material Table 1. Model parameters for the calculation of treatment costs for moderate AD

Parameter	Value
1.5% Ruxolitinib cream	
Adherence to treatment regimen, %	100
Dosing regimen	2× daily first 8 weeks; 56% of time thereafter
Percentage of BSA covered per gram, %	2
Grams per tube	60
Cost per tube, USD	2,045.00
Dupilumab	
Adherence to treatment regimen, %	100
Dosing regimen, adults ≥18 years	
Initial dose	600 mg (2×300 mg inj.)
Maintenance dose	300 mg (1×300 mg inj.) Q2W
Dosing regimen, children 12–17 years	
Initial dose	600 mg (2×300 mg inj.) for ≥60 kg 400 mg (2×200 mg inj.) for ≥30 kg
Maintenance dose	300 mg (1×300 mg inj.) Q2W for ≥60 kg 200 mg (1×200 mg inj.) Q2W for ≥30 kg
Cost per 2 injections of any dosage, USD	3,803.20

AD, atopic dermatitis; BSA, body surface area; inj, injection; Q2W, every other week.

The percentage of BSA affected was used to calculate the amount of ruxolitinib cream needed under the assumption that when applied twice daily, 1 g of ruxolitinib cream covers 2% of BSA. Specifically, the total grams of 1.5% ruxolitinib cream used is calculated by totaling the daily amount applied, estimated as (BSA/2) grams per day, assuming daily use during the first 8 weeks and use on 56% of days thereafter. The number of 60-g tubes required is then determined by dividing the total grams used by 60. Supplementary Material Table 2 includes the annual treatment cost calculations for ruxolitinib used in this report.

Supplementary Material Table 2. Annual cost of treatment per patient, 1.5% ruxolitinib cream

Week	Trial BSA	N	N Miss	MI BSA	Est. 1 BSA	Est. 1 Grams Used	Est. 2 BSA	Est. 2 Grams Used	Est. 3 BSA	Est. 3 Grams Used
0	17.98	32	0	17.98						
2	9.95	29	3	9.90	13.94	97.58	17.98	125.89	17.98	125.89
4	6.53	30	2	6.53	8.21	57.50	9.90	69.27	17.98	125.89
8	5.15	28	4	5.07	5.80	81.22	6.53	91.46	17.98	251.78
12	4.73	27	5	4.68	4.88	38.23	5.07	39.75	4.88	38.23
16	4.75	27	5	4.84	4.76	37.32	4.68	36.71	4.76	37.32
20	3.83	26	6	3.56	4.20	32.93	4.84	37.92	4.20	32.93
24	3.90	23	9	3.69	3.63	28.43	3.56	27.95	3.63	28.43
28	3.83	24	8	3.66	3.68	28.81	3.69	28.92	3.68	28.81
32	3.90	22	10	3.72	3.69	28.95	3.66	28.70	3.69	28.95
36	3.15	24	8	3.05	3.38	26.54	3.72	29.20	3.38	26.54
40	2.67	24	8	2.61	2.83	22.19	3.05	23.88	2.83	22.19
44	2.64	23	9	2.55	2.58	20.25	2.61	20.49	2.58	20.25
48	3.05	21	11	2.66	2.61	20.43	2.55	20.00	2.61	20.43
52	2.54	23	9	2.36	2.51	19.67	2.66	20.86	2.51	19.67
1 st Year										
Total grams used						540.06	601.01		807.31	
Total number of tubes used						9.0	10.02		13.46	
Total cost, USD						18,407	20,484		27,516	
2 nd Year										
Mean BSA affected, %				3.04						
Total grams used						310.48	310.48		310.48	
Total number of tubes used						5.17	5.17		5.17	
Total cost, USD						10,582	10,582		10,582	

BSA, body surface area; Est. 1/2/3, estimation approaches 1, 2, or 3 (referred to in the manuscript as the base approach and the 2 alternative approaches); MI BSA, mean BSA using multiple imputations; N, number of patients; N Miss, number of patients with missing BSA.