

ALOPECIA AREATA TREATMENT PATTERNS AND SATISFACTION: RESULTS OF A REAL-WORLD CROSS-SECTIONAL SURVEY IN EUROPE

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Running Title: AA Treatment Patterns in Europe

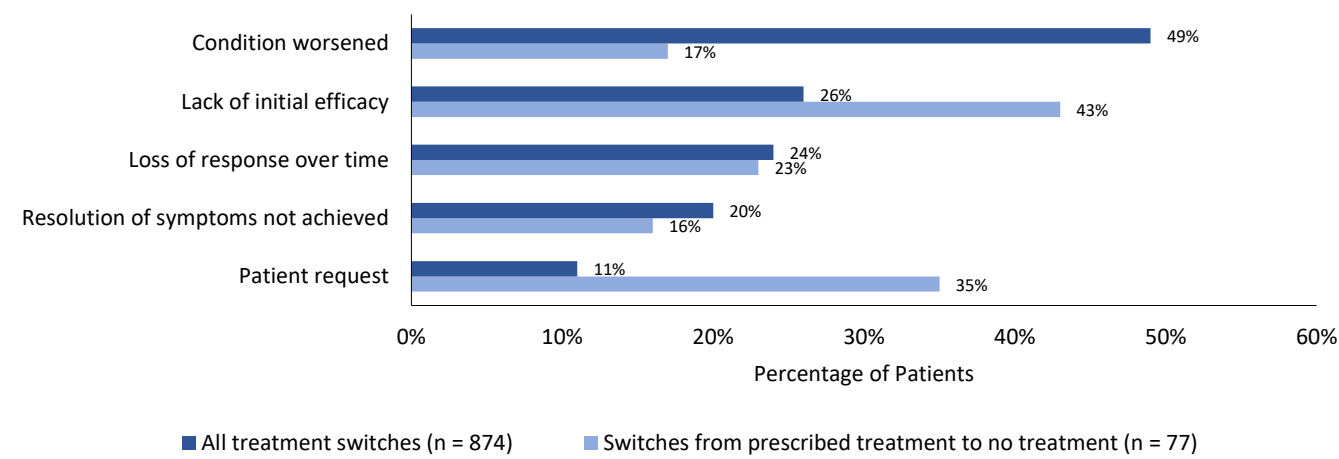
Supplemental Tables and Figures

Table S1. Top 10 treatments ever received by patients prior to current therapy by percentage SHL

AA Treatment, n (%)	Percentage SHL						
	All patients (n = 1,692)	≤10% (n = 201)	11–20% (n = 130)	21–49% (n = 708)	50–74% (n = 295)	75–99% (n = 195)	100% (n = 163)
Topical corticosteroid	1029 (61)	139 (69)	90 (69)	439 (62)	178 (60)	103 (53)	80 (49)
Oral corticosteroid	745 (44)	21 (10)	41 (32)	316 (45)	168 (57)	105 (54)	94 (58)
Intralesional corticosteroid	563 (33)	84 (42)	50 (38)	265 (37)	85 (29)	41 (21)	38 (23)
Systemic immunotherapy	504 (30)	21 (10)	23 (18)	168 (24)	135 (46)	85 (44)	72 (44)
Topical minoxidil	418 (25)	52 (26)	39 (30)	179 (25)	75 (25)	50 (26)	23 (14)
Topical calcineurin inhibitor	370 (22)	34 (17)	32 (25)	159 (22)	77 (26)	38 (19)	30 (18)
Phototherapy	282 (17)	14 (7)	17 (13)	129 (18)	73 (25)	33 (17)	16 (10)
Topical immunotherapy	281 (17)	7 (3)	15 (12)	102 (14)	65 (22)	42 (22)	50 (31)
Oral JAK inhibitors	180 (11)	10 (5)	9 (7)	38 (5)	51 (17)	52 (27)	20 (12)
Zinc	167 (10)	13 (6)	17 (13)	69 (10)	36 (12)	21 (11)	11 (7)

Physicians were able to select more than one option from a multiple choice list

Figure S1: Dermatologist-reported reasons for treatment switches



Physicians were able to select more than one option from a multiple-choice list

Figure S2. Dermatologist satisfaction with current control of AA stratified by if hair regrowth is currently occurring for patient

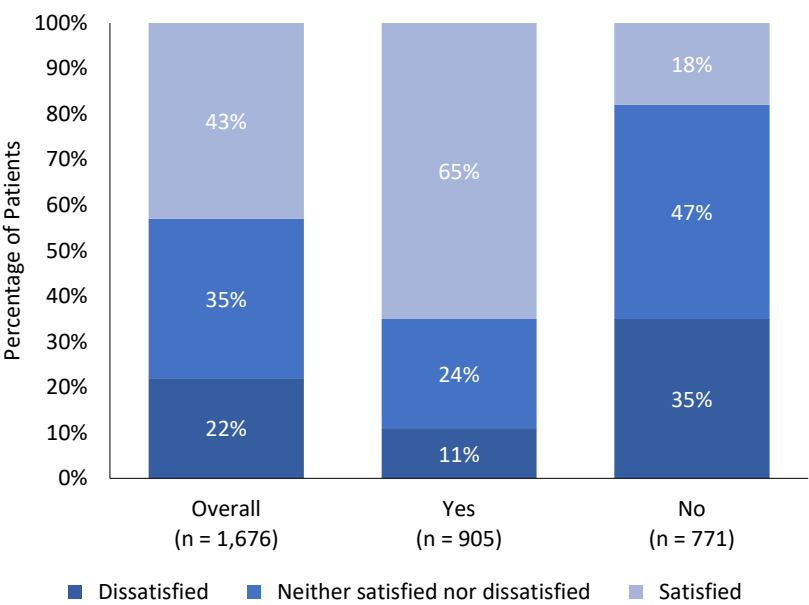


Table S2. Demographics of adults with alopecia areata by country

	All patients (n = 1720)	France (n = 192)	Germany (n = 450)	Italy (n = 313)	Spain (n = 488)	UK (n = 277)
Age, years						
Mean (SD)	35.8 (11.6)	36.9 (10.7)	35.1 (10.7)	37.7 (11.8)	36.8 (12.4)	32.3 (11.0)
Male sex, n (%)	873 (51)	93 (48)	272 (60)	163 (52)	233 (48)	112 (40)
BMI, mean (SD)	24.2 (3.2)	23.6 (3.1)	24.1 (3.0)	23.8 (3.1)	24.4 (3.3)	24.9 (3.5)
White, n (%)	1555 (90)	165 (86)	423 (94)	300 (96)	453 (93)	214 (77)
Employment Status, n (%)						
Working full-time	1092 (63)	135 (70)	334 (74)	180 (58)	288 (59)	155 (56)
Working part-time	164 (10)	15 (8)	31 (7)	45 (14)	33 (7)	40 (14)
Student	261 (15)	20 (10)	54 (12)	47 (15)	88 (18)	52 (19)
Other ^b	203 (12)	22 (11)	31 (7)	41 (13)	79 (16)	30 (11)
Comorbid Conditions^a, n (%)						
Anxiety	139 (8)	29 (15)	9 (2)	31 (10)	43 (9)	27 (10)
Atopic dermatitis	92 (5)	13 (7)	25 (6)	13 (4)	15 (3)	26 (9)
Depression	84 (5)	14 (7)	15 (3)	10 (3)	27 (6)	18 (6)
Thyroid disease	80 (5)	8 (4)	14 (3)	18 (6)	28 (6)	12 (4)
Atopy	69 (4)	3 (2)	13 (3)	15 (5)	14 (3)	24 (9)
Hypertension	62 (4)	3 (2)	25 (6)	10 (3)	22 (5)	2 (1)
Allergic rhinitis	44 (3)	4 (2)	19 (4)	6 (2)	6 (1)	9 (3)
None	905 (53)	95 (49)	248 (55)	149 (48)	292 (60)	121 (44)

Abbreviations: SD, standard deviation; UK, United Kingdom

^aReport comorbid conditions with prevalence $\geq 3\%$ in overall population, physicians can select more than one option from a multiple-choice list; ^bincludes: patients on long-term sick leave, retired, unemployed, furloughed / government work scheme and homemakers.

Table S3. Clinical characteristics of adults with alopecia areata by country

	All patients (n = 1720)	France (n = 192)	Germany (n = 450)	Italy (n = 313)	Spain (n = 488)	UK (n = 277)
Type(s)^a of AA, n (%)^b						
AA Patchy - monocularis ^c	258 (15)	34 (18)	83 (18)	45 (14)	65 (13)	31 (11)
AA Patchy - multilocularis ^d	766 (45)	86 (45)	223 (50)	121 (39)	212 (43)	124 (45)
Diffuse AA ^e	341 (20)	44 (23)	89 (20)	87 (28)	91 (19)	30 (11)
Ophiasis ^f	162 (9)	17 (9)	26 (6)	33 (11)	53 (11)	33 (12)
AA <i>barbae</i> ^g	103 (6)	13 (7)	16 (4)	40 (13)	29 (6)	5 (2)
AA <i>totalis</i> ^h	172 (10)	17 (9)	35 (8)	31 (10)	50 (10)	39 (14)
AA <i>universalis</i> ⁱ	112 (7)	5 (3)	7 (2)	25 (8)	42 (9)	33 (12)
Other	7 (0)	1 (1)	0 (0)	2 (1)	3 (1)	1 (0)
Current Disease Progression, n (%)^b						
Improving	526 (31)	64 (33)	130 (29)	92 (29)	168 (34)	72 (26)
Stable	762 (44)	76 (40)	191 (43)	147 (47)	234 (48)	114 (41)
Worsening slowly	345 (20)	38 (20)	105 (23)	57 (18)	74 (15)	71 (26)
Worsening rapidly	86 (5)	13 (7)	24 (5)	17 (6)	12 (3)	20 (7)
% Scalp/Body Hair Loss, mean (SD)	45.5 (29.6)	43.1 (30.2)	42.7 (24.1)	50.1 (28.8)	45.0 (31.5)	47.4 (33.7)
Physician-reported current level of AA severity, n (%)						
Mild	210 (12)	20 (10)	57 (13)	33 (11)	70 (15)	30 (11)
Moderate	788 (46)	95 (50)	209 (46)	142 (45)	216 (44)	126 (45)
Severe	503 (29)	54 (28)	155 (34)	101 (32)	133 (27)	60 (22)
Very severe	219 (13)	23 (12)	29 (7)	37 (12)	69 (14)	61 (22)
Patient-reported current level of AA severity, n (%)						
Mild	95 (20)	1 (4)	56 (20)	4 (11)	34 (26)	0 (0)
Moderate	233 (49)	12 (48)	142 (51)	16 (46)	63 (47)	0 (0)

AA EU5 treatment patterns – supplementary data

Severe	108 (23)	7 (28)	66 (24)	12 (34)	23 (17)	0 (0)
Very severe	32 (7)	4 (16)	12 (4)	3 (9)	11 (8)	2 (100)
Months since initial AA diagnosis, mean (SD)	36.9 (63.7)	30.4 (63.6)	36.2 (59.2)	43.1 (64.9)	41.6 (72.3)	25.0 (49.6)
Age at first AA symptom, n (%)						
Childhood (≤3–11 years)	58 (3)	5 (3)	2 (1)	19 (6)	17 (3)	15 (5)
Adolescent (12–14 years)	223 (13)	16 (8)	37 (8)	51 (16)	78 (16)	41 (15)
Adult (≥15 years)	1390 (81)	164 (85)	406 (90)	233 (75)	374 (77)	213 (77)
Unknown	49 (3)	7 (4)	5 (1)	10 (3)	19 (4)	8 (3)
Patient currently experiencing hair regrowth, n (%)^b						
Yes	905 (53)	97 (51)	214 (47)	174 (56)	304 (62)	116 (42)
No	771 (45)	91 (47)	228 (51)	133 (42)	169 (35)	150 (54)
Unknown	44 (2)	4 (2)	8 (2)	6 (2)	15 (3)	11 (4)
Current reason for hair regrowth, n (%)^b	n=905	n=97	n=214	n=174	n=304	n=116
Spontaneous	72 (8)	11 (11)	16 (7)	15 (9)	17 (5)	13 (11)
As a result of treatment	781 (86)	82 (85)	183 (86)	155 (89)	273 (90)	88 (76)
Unknown	52 (6)	4 (4)	15 (7)	4 (2)	14 (5)	15 (13)
Areas of hair loss, n (%)^b						
Scalp hair loss	1720 (100)	192 (100)	450 (100)	313 (100)	488 (100)	277 (100)
Eyebrow hair loss	535 (31)	58 (30)	102 (23)	107 (34)	179 (37)	89 (32)
Eyelash hair loss	346 (20)	41 (21)	70 (16)	75 (24)	98 (20)	62 (22)
Body hair loss	228 (13)	21 (11)	45 (10)	58 (19)	65 (13)	39 (14)
Facial (moustache or beard)	175 (10)	18 (9)	36 (8)	42 (13)	59 (12)	20 (7)
Current patient symptoms, n (%)^{a, b}						
Eye irritation	49 (3)	13 (7)	12 (3)	14 (4)	2 (0)	8 (3)
Nail damage	189 (11)	25 (13)	54 (12)	51 (16)	36 (7)	23 (8)
Scalp itching	271 (16)	48 (25)	121 (27)	53 (17)	34 (7)	15 (5)
Scalp burning or stinging	176 (10)	41 (21)	73 (16)	37 (12)	15 (3)	10 (4)
Scalp pain	147 (9)	24 (13)	82 (18)	32 (10)	7 (1)	2 (1)
Scalp irritation	174 (10)	46 (24)	83 (18)	28 (9)	9 (2)	8 (3)

AA EU5 treatment patterns – supplementary data

Other	2 (<1)	0 (0)	0 (0)	0 (0)	2 (0)	0 (0)
% current scalp hair loss mean (SD)	45.5 (29.55)	43.1 (30.22)	42.7 (24.11)	50.1 (28.75)	45.0 (31.45)	47.4 (33.70)
% current scalp hair loss groups, n (%)						
≤10%	207 (12)	30 (16)	44 (10)	27 (9)	68 (14)	38 (14)
11–20%	131 (8)	16 (8)	30 (7)	25 (8)	42 (9)	18 (6)
21–49%	717 (42)	75 (39)	206 (46)	127 (41)	197 (40)	112 (40)
50–74%	299 (17)	29 (15)	125 (28)	46 (15)	64 (13)	35 (13)
75–99%	196 (11)	30 (16)	27 (6)	61 (19)	60 (12)	18 (6)
100%	170 (10)	12 (6)	18 (4)	27 (9)	57 (12)	56 (20)

Abbreviations: AA, Alopecia areata; SD, standard deviation; UK, United Kingdom

^aPhysicians can select more than one option from a multiple-choice list; ^bat time of data collection; ^csingle spot; ^dmultiple coin-sized hairless spots, ^emore diffuse hair loss over the whole scalp; ^fwave-shaped hair loss at the circumference of the head; ^ghair loss limited to the beard; ^hcomplete loss of the scalp; ⁱloss of all body hair.

Table S4. Treatment characteristics of patients by country

	All patients (n = 1692)	France (n = 191)	Germany (n = 439)	Italy (n = 310)	Spain (n = 481)	UK (n = 271)
Time since start of first AA therapy (years), mean (SD)	1.9 (2.9)	1.6 (2.5)	1.8 (2.5)	1.9 (2.6)	2.3 (3.9)	1.0 (1.3)
Number of treatment lines received per patient, mean (SD)	1.8 (1.0)	1.7 (1.0)	1.7 (0.9)	1.7 (0.9)	1.9 (1.1)	1.7 (0.8)
Time on current treatment (months), mean (SD)	9.3 (13.8)	9.0 (14.1)	11.0 (17.1)	6.7 (7.3)	10.5 (14.5)	6.5 (9.4)
AA treatment types received at consultation, n (%)						
Topical corticosteroid	585 (35)	70 (37)	170 (39)	140 (45)	121 (25)	84 (31)
Systemic immunosuppressant	381 (23)	64 (34)	101 (23)	71 (23)	103 (21)	42 (15)
Oral corticosteroid	378 (22)	32 (17)	120 (27)	85 (27)	109 (23)	32 (12)
Intralesional corticosteroid	374 (22)	38 (20)	26 (6)	88 (28)	142 (30)	80 (30)
Oral or topical minoxidil	274 (16)	36 (19)	21 (5)	57 (18)	137 (28)	23 (8)
Topical calcineurin inhibitor	230 (14)	23 (12)	91 (20)	28 (9)	44 (9)	44 (16)
Any phototherapy	195 (12)	33 (17)	132 (30)	16 (5)	9 (2)	5 (2)
Oral or topical JAK inhibitor	194 (11)	50 (26)	51 (12)	31 (10)	51 (11)	11 (4)
Topical immunotherapy	185 (11)	19 (10)	58 (13)	38 (12)	47 (10)	23 (8)
No prior therapy	77 (5)	4 (2)	13 (3)	16 (5)	29 (6)	15 (6)

Abbreviations: AA, Alopecia areata; JAK, Janus Kinase; SD, standard deviation; UK, United Kingdom

Table S5. Physician and patient satisfaction with current control

	All patients (n = 1720)	France (n = 192)	Germany (n = 450)	Italy (n = 313)	Spain (n = 488)	UK (n = 277)
Physician-reported satisfaction with current control, n (%)						
Extremely dissatisfied	72 (4)	6 (3)	10 (2)	11 (3)	17 (3)	28 (10)
Very dissatisfied	82 (5)	4 (2)	20 (4)	15 (5)	26 (5)	17 (6)
Dissatisfied	223 (13)	32 (17)	54 (12)	24 (8)	76 (16)	37 (13)
Neither satisfied nor dissatisfied	605 (35)	58 (30)	148 (33)	117 (37)	159 (33)	123 (45)
Satisfied	570 (33)	61 (32)	179 (40)	112 (36)	158 (32)	60 (22)
Very satisfied	136 (8)	22 (11)	35 (8)	25 (8)	43 (9)	11 (4)
Extremely satisfied	32 (2)	9 (5)	4 (1)	9 (3)	9 (2)	1 (0)
Physician-reported reason for dissatisfaction, n (%)						
Lack of efficacy overall	274 (73)	35 (83)	60 (71)	38 (76)	75 (63)	66 (80)
Alopecia areata is still impacting the patient's quality of life	103 (27)	8 (19)	23 (27)	11 (22)	39 (33)	22 (27)
Patient not satisfied	66 (18)	10 (24)	10 (12)	10 (20)	20 (17)	16 (20)
Slow onset of action	64 (17)	4 (10)	13 (15)	10 (20)	24 (20)	13 (16)
Efficacy is diminishing over time	34 (9)	1 (2)	17 (20)	5 (10)	6 (5)	5 (6)
Persistent symptoms (pain, burning sensation, itch, tingling sensation)	28 (7)	5 (12)	16 (19)	1 (2)	6 (5)	0 (0)
Side effects	20 (5)	1 (2)	3 (4)	4 (8)	10 (8)	2 (2)
Patient dislikes mode of administration/finds it too burdensome	18 (5)	2 (5)	3 (4)	1 (2)	8 (7)	4 (5)
Other	19 (5)	0 (0)	8 (10)	4 (8)	4 (3)	3 (4)
Lack of compliance	8 (2)	1 (2)	2 (2)	0 (0)	5 (4)	0 (0)
Patient-reported satisfaction with current control, n (%)						
	n=474	n=25	n=278	n=35	n=134	n=2
Extremely dissatisfied	7 (1)	1 (4)	3 (1)	2 (5)	1 (1)	0 (0)
Very dissatisfied	12 (3)	2 (8)	8 (3)	0 (0)	2 (2)	0 (0)
Dissatisfied	59 (12)	6 (24)	27 (10)	5 (14)	21 (16)	0 (0)
Neither satisfied nor dissatisfied	134 (28)	7 (28)	69 (25)	16 (46)	42 (31)	0 (0)
Satisfied	173 (37)	5 (20)	118 (42)	8 (23)	42 (31)	0 (0)
Very satisfied	36 (8)	2 (8)	20 (7)	2 (6)	12 (9)	0 (0)

Extremely satisfied	2 (0)	0 (0)	0 (0)	0 (0)	2 (1)	0 (0)
Patient-reported reason for dissatisfaction, n (%)						
Hasn't improved my condition in the way I'd hoped	67 (86)	6 (67)	35 (92)	6 (86)	20 (83)	0 (0)
I do not like the side effects from my medication	17 (22)	0 (0)	11 (29)	2 (29)	4 (17)	0 (0)
Inconvenient to take/use	12 (15)	0 (0)	8 (21)	2 (29)	2 (8)	0 (0)
My medication is becoming less effective over time	17 (22)	4 (44)	9 (24)	1 (14)	3 (13)	0 (0)
My medication is very costly	5 (6)	4 (44)	1 (3)	0 (0)	0 (0)	0 (0)
I do not like injections	7 (9)	2 (22)	1 (3)	0 (0)	4 (17)	0 (0)
Other	3 (4)	0 (0)	2 (5)	1 (14)	0 (0)	0 (0)

Abbreviations: UK, United Kingdom

Table S6. Physician treatment goals and reasons for choice of current treatment

	All patients (n = 1720)	France (n = 192)	Germany (n = 450)	Italy (n = 313)	Spain (n = 488)	UK (n = 277)
Main treatment goals, n (%)						
Reduce scalp hair loss	1586 (92)	185 (96)	426 (95)	280 (89)	457 (94)	238 (86)
Improve quality of life	841 (49)	88 (46)	230 (51)	150 (48)	254 (52)	119 (43)
Reduce psychological impact	657 (38)	65 (34)	106 (24)	122 (39)	260 (53)	104 (38)
Achieve long term/chronic control of the condition	505 (29)	73 (38)	126 (28)	126 (40)	150 (31)	30 (11)
Reduce eyebrow hair loss	460 (27)	64 (33)	102 (23)	100 (32)	137 (28)	57 (21)
Reduce eyelash hair loss	291 (17)	53 (28)	62 (14)	61 (19)	76 (16)	39 (14)
Reduce scalp itching / irritation	263 (15)	53 (28)	120 (27)	53 (17)	30 (6)	7 (3)
Prevent relapses/rebound effects seen after withdrawal of systemic steroids or immunomodulators	247 (14)	32 (17)	48 (11)	75 (24)	86 (18)	6 (2)
Reduce impact on patient's ability to do what they enjoy	221 (13)	31 (16)	45 (10)	41 (13)	81 (17)	23 (8)
Reduce impact on patient's ability to work/study	194 (11)	28 (15)	17 (4)	46 (15)	81 (17)	22 (8)
Minimize adverse events	194 (11)	24 (13)	36 (8)	38 (12)	90 (18)	6 (2)
Reduce scalp pain / burning or stinging	171 (10)	37 (19)	77 (17)	36 (12)	15 (3)	6 (2)
Reduce body hair loss	151 (9)	35 (18)	24 (5)	40 (13)	40 (8)	12 (4)
Reduce facial hair loss	137 (8)	19 (10)	30 (7)	36 (12)	42 (9)	10 (4)
Reduce nail damage	124 (7)	30 (16)	38 (8)	31 (10)	18 (4)	7 (3)
Reduce eye irritation	50 (3)	19 (10)	10 (2)	15 (5)	5 (1)	1 (0)
Other	16 (1)	0 (0)	4 (1)	3 (1)	4 (1)	5 (2)
Reasons for choice of current treatment, n (%)						
Reduce scalp hair loss	1444 (89)	165 (88)	408 (96)	258 (88)	411 (91)	202 (79)
Improve scalp hair coverage	909 (56)	108 (58)	256 (60)	140 (48)	261 (58)	144 (56)
Improves quality of life	697 (43)	71 (38)	250 (59)	119 (40)	186 (41)	71 (28)
Has a good overall safety profile	643 (40)	72 (39)	170 (40)	154 (52)	181 (40)	66 (26)
Has a reasonable cost benefit ratio	493 (31)	47 (25)	131 (31)	112 (38)	161 (36)	42 (16)
Reduces psychological impact	485 (30)	52 (28)	133 (31)	88 (30)	169 (37)	43 (17)

Administration is acceptable to the patient	469 (29)	63 (34)	108 (25)	127 (43)	133 (29)	38 (15)
Familiarity/experience with drug	430 (27)	53 (28)	157 (37)	88 (30)	92 (20)	40 (16)
Safe for long-term use	396 (25)	52 (28)	87 (20)	102 (35)	116 (26)	39 (15)
Reduce eyebrow hair loss	312 (19)	49 (26)	71 (17)	71 (24)	88 (19)	33 (13)
Ease of access/lack of administrative barriers	284 (18)	28 (15)	78 (18)	54 (18)	101 (22)	23 (9)
Regrow eyebrow hair	256 (16)	44 (24)	53 (12)	58 (20)	74 (16)	27 (11)
Reduce eyelash hair loss	185 (11)	39 (21)	44 (10)	49 (17)	41 (9)	12 (5)
Regrow eyelash hair	142 (9)	29 (16)	27 (6)	36 (12)	39 (9)	11 (4)
Reduce nasal hair loss	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Reduce body hair loss	122 (8)	20 (11)	33 (8)	32 (11)	31 (7)	6 (2)
Reduce eye irritation	52 (3)	16 (9)	19 (4)	11 (4)	5 (1)	1 (0)
Reduce nail damage	86 (5)	19 (10)	28 (7)	25 (9)	10 (2)	4 (2)
Reduce facial hair loss	119 (7)	20 (11)	34 (8)	34 (12)	25 (6)	6 (2)
Reduce scalp itching / irritation	262 (16)	45 (24)	124 (29)	48 (16)	33 (7)	12 (5)
Does not require intensive monitoring	256 (16)	37 (20)	53 (12)	61 (21)	77 (17)	28 (11)
Reimbursed for patient	259 (16)	39 (21)	93 (22)	35 (12)	81 (18)	11 (4)
Dosing frequency	240 (15)	35 (19)	52 (12)	65 (22)	76 (17)	12 (5)
Reduces the need for topical corticosteroid therapy	205 (13)	22 (12)	74 (17)	54 (18)	34 (8)	21 (8)
Patient request/preference	204 (13)	26 (14)	76 (18)	31 (11)	60 (13)	11 (4)
Reduce scalp pain / burning or stinging	163 (10)	37 (20)	68 (16)	33 (11)	19 (4)	6 (2)
Reduces the need for injected corticosteroid therapy	155 (10)	22 (12)	45 (11)	39 (13)	38 (8)	11 (4)
Patient willingness to pay cost share	99 (6)	17 (9)	34 (8)	19 (6)	27 (6)	2 (1)

Abbreviations: UK, United Kingdom