

Supplementary Table 1. Comorbidities in matched atopic dermatitis (AD) patients and non-AD controls

	Commercial			Medicare			Medi-Cal		
	AD (<i>n</i> = 83,106)	Non-AD (<i>n</i> = 83,106)	<i>P</i>	AD (<i>n</i> = 31,060)	Non-AD (<i>n</i> = 31,060)	<i>P</i>	AD (<i>n</i> = 5,550)	Non-AD (<i>n</i> = 5,550)	<i>P</i>
Deyo-modified CCI score, mean (SD)	0.46 (1.10)	0.34 (0.98)	<0.0001	1.92 (2.21)	1.75 (2.21)	<0.0001	0.78 (1.48)	0.52 (1.37)	<0.0001
CCI comorbid conditions, <i>n</i> (%)									
Myocardial infarction	441 (0.53)	425 (0.51)	0.5857	1,427 (4.59)	1,324 (4.26)	0.0446	35 (0.63)	34 (0.61)	0.9039
Congestive heart failure	687 (0.83)	609 (0.73)	0.0296	3,232 (10.41)	3,001 (9.66)	0.002	122 (2.20)	93 (1.68)	0.0458
Peripheral vascular disease	913 (1.10)	712 (0.86)	<0.0001	3,319 (10.69)	2,648 (8.53)	<0.0001	71 (1.28)	40 (0.72)	0.0031
Dementia	86 (0.10)	64 (0.08)	0.0723	969 (3.12)	951 (3.06)	0.6765	15 (0.27)	16 (0.29)	0.8573
Cerebrovascular disease	1,814 (2.18)	1,418 (1.71)	<0.0001	4,301 (13.85)	3,777 (12.16)	<0.0001	170 (3.06)	124 (2.23)	0.0065
Rheumatologic/connective tissue disease	1,402 (1.69)	889 (1.07)	<0.0001	1,233 (3.97)	932 (3.00)	<0.0001	129 (2.32)	73 (1.32)	<0.0001
Peptic ulcer disease	322 (0.39)	243 (0.29)	0.0009	388 (1.25)	319 (1.03)	0.0091	102 (1.84)	38 (0.68)	<0.0001
Mild liver disease	256 (0.31)	157 (0.19)	<0.0001	275 (0.89)	210 (0.68)	0.003	66 (1.19)	39 (0.70)	0.0081
Hemiplegia or paraplegia	232 (0.28)	190 (0.23)	0.148	396 (1.27)	398 (1.28)	0.9598	38 (0.68)	21 (0.38)	0.0265

Moderate or severe renal disease	2,410 (2.90)	1,874 (2.25)	<0.0001	10,904 (35.11)	9,682 (31.17)	<0.0001	131 (2.36)	87 (1.57)	0.0026
Diabetes	6,560 (7.89)	5,846 (7.03)	<0.0001	8,737 (28.13)	8,526 (27.45)	0.0588	843 (15.19)	589 (10.61)	<0.0001
Any tumor (or other malignancy)	5,856 (7.05)	5,024 (6.05)	<0.0001	7,772 (25.02)	7,390 (23.79)	0.0192	182 (3.28)	160 (2.88)	0.2269
Moderate/severe liver disease	327 (0.39)	201 (0.24)	0.0015	381 (1.23)	249 (0.80)	0.0024	28 (0.50)	20 (0.36)	0.2472
Metastatic solid tumor	1,866 (2.25)	1,788 (2.15)	0.5977	2,358 (7.59)	3,072 (9.89)	<0.0001	22 (0.40)	36 (0.65)	0.0653
Diabetes + complications	2,420 (2.91)	1,954 (2.35)	<0.0001	6,498 (20.92)	6,038 (19.44)	0.0022	199 (3.59)	145 (2.61)	0.0031
AIDS	1,692 (2.04)	936 (1.13)	<0.0001	150 (0.48)	114 (0.37)	0.3655	45 (0.81)	25 (0.45)	0.0165
Chronic pulmonary disease	11,282 (13.58)	5,803 (6.98)	<0.0001	7,358 (23.69)	5,878 (18.92)	<0.0001	1,186 (21.37)	562 (10.13)	<0.0001

CCI/Charlson comorbidity index

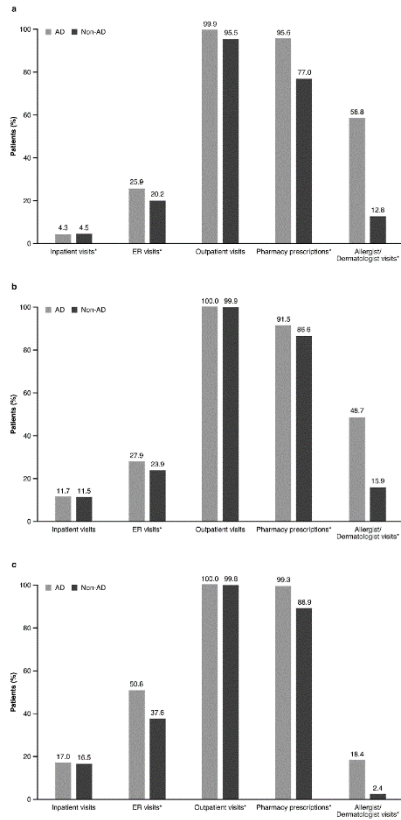
Supplementary Table 2. Comorbidities in atopic dermatitis patients stratified by disease severity

	Commercial			Medicare			Medi-Cal		
	Higher severity (n = 29,640)	Lower severity (n = 53,466)	<i>P</i>	Higher severity (n = 12,546)	Lower severity (n = 18,514)	<i>P</i>	Higher severity (n = 1,198)	Lower severity (n = 4,352)	<i>P</i>
Deyo-modified CCI score, mean (SD)	0.63 (1.28)	0.37 (0.97)	<0.0001	2.18 (2.33)	1.75 (2.10)	<0.0001	1.23 (1.77)	0.66 (1.36)	<0.0001
CCI comorbid conditions, <i>n</i> (%)									
Myocardial infarction	217 (0.73)	224 (0.42)	<0.0001	609 (4.85)	818 (4.42)	0.0718	14 (1.17)	21 (0.48)	0.0079
Congestive heart failure	357 (1.20)	330 (0.62)	<0.0001	1,566 (12.48)	1,666 (9.00)	<0.0001	48 (4.01)	74 (1.70)	<0.0001
Peripheral vascular disease	429 (1.45)	484 (0.91)	<0.0001	1,476 (11.76)	1,843 (9.95)	<0.0001	26 (2.17)	45 (1.03)	0.0019
Dementia	25 (0.08)	61 (0.11)	0.2014	312 (2.49)	657 (3.55)	<0.0001	2 (0.17)	13 (0.30)	0.4366
Cerebrovascular disease	884 (2.98)	930 (1.74)	<0.0001	1,892 (15.08)	2,409 (13.01)	<0.0001	61 (5.09)	109 (2.50)	<0.0001
Rheumatologic/connective tissue disease	961 (3.24)	441 (0.82)	<0.0001	848 (6.76)	385 (2.08)	<0.0001	74 (6.18)	55 (1.26)	<0.0001
Peptic ulcer disease	145 (0.49)	177 (0.33)	0.0004	176 (1.40)	212 (1.15)	0.0448	37 (3.09)	65 (1.49)	0.0003
Mild liver disease	131 (0.44)	125 (0.23)	<0.0001	121 (0.96)	154 (0.83)	0.2208	22 (1.84)	44 (1.01)	0.0196
Hemiplegia or paraplegia	100 (0.34)	132 (0.25)	0.0942	156 (1.24)	240 (1.30)	0.7738	17 (1.42)	21 (0.48)	0.0005
Moderate or severe renal disease	1,182 (3.99)	1,228 (2.30)	<0.0001	4,682 (37.32)	6,222 (33.61)	<0.0001	48 (4.01)	83 (1.91)	<0.0001

Diabetes	2,723 (9.19)	3,837 (7.18)	<0.0001	3,637 (28.99)	5,100 (27.55)	0.0055	231 (19.28)	612 (14.06)	<0.0001
Any tumor (other malignancy)	2,624 (8.85)	3,232 (6.04)	<0.0001	3,480 (27.74)	4,292 (23.18)	<0.0001	55 (4.59)	127 (2.92)	0.0040
Moderate/severe liver disease	144 (0.49)	183 (0.34)	0.0679	174 (1.69)	207 (1.12)	0.2246	8 (0.67)	20 (0.46)	0.3677
Metastatic solid tumor	1,146 (3.87)	720 (1.35)	<0.0001	1,350 (10.76)	1,008 (5.44)	<0.0001	8 (0.67)	14 (0.32)	0.0914
Diabetes + complications	1,044 (3.52)	1,376 (2.57)	<0.0001	2,766 (22.05)	3,732 (20.16)	0.0076	66 (5.51)	133 (3.06)	<0.0001
AIDS	612 (2.06)	1,080 (2.02)	0.8593	42 (0.33)	108 (0.58)	0.2065	11 (0.92)	34 (0.78)	0.6398
Chronic pulmonary disease	6,042 (20.38)	5,240 (9.80)	<0.0001	4,040 (32.20)	3,318 (17.92)	<0.0001	447 (37.31)	739 (16.98)	<0.0001

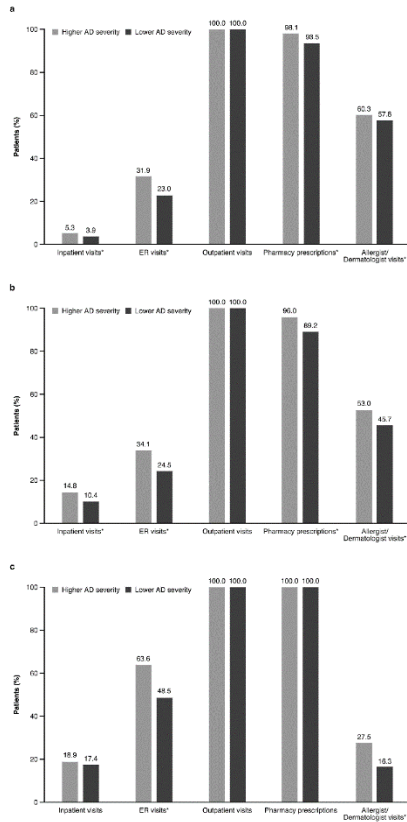
AD patients were stratified by disease severity using treatment as a surrogate measure of severity. The higher disease severity subgroup comprised patients who had at least one medical or pharmacy claim for systemic corticosteroids, systemic immunosuppressants, or phototherapy during the 12-month follow-up period. The lower disease severity subgroup comprised patients who did not have a claim for any of these treatments or had no treatment during the 12-month follow-up period.

Supplementary Fig. 1 Adjusted overall healthcare resource utilization in atopic dermatitis (AD) patients and matched non-AD controls in **a** Commercial, **b** Medicare, and **c** Medi-Cal populations



* $P < 0.05$. Variables included in the generalized linear model: age, gender, race, non-AD related comorbidities, and region (Commercial and Medicare only). AD atopic dermatitis; ER emergency room

Supplementary Fig. 2 Adjusted overall healthcare resource utilization stratified by atopic dermatitis disease severity in **a** Commercial, **b** Medicare, and **c** Medi-Cal populations



* $P < 0.05$. Variables included in the generalized linear model: age, gender, race, non-AD related comorbidities, and region (Commercial and Medicare only). AD atopic dermatitis; ER emergency room