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Table S1. Administrative codes from registries.

		Population 1			Population 2	
	<i>Variable</i>	<i>Source</i>	<i>Definition</i>	<i>Excluding</i>	<i>Source</i>	<i>Definition</i>
Patient population	Atopic dermatitis	NPR	ICD-10 code L20		NPR+DSC	ICD-10 code L20 and specialty code = 18 (dermatology) and self-reported active AD.
Risk factors	Diabetes mellitus¹					
	- Hospital diagnosis	NPR	ICD-10 codes E10, E11			//
	- Use of glucose-lowering drugs	NPrR	ATC code A10			//
	Hypertension²					
	- Hospital diagnosis	NPR	ICD-10 codes I10-I15			//
	- Treatment with at least 2 classes of antihypertensive drugs	NPrR	ATC codes - α adrenergic blockers (C02A, C02B, C02C) - non-loop diuretics (C02DA, C02L, C03A, C03B, C03D, C03E, C03X, C07C, C07D, C08G, C09BA, C09DA, C09XA52)			//

			- vasodilators (C02DB, C02DD, C02DG, C04, C05) - β blockers (C07) - calcium channel blockers (C07F, C08, C09BB, C09DB) - renin-angiotensin system inhibitors (C09).			
	Hypercholesterolemia¹					//
	- Hospital diagnosis	NPR	ICD-10 code E78			
	- Use of cholesterol-lowering drugs	NPrR	ATC code C10A			
	Smoking³				DSC	Self-registration of 'Yes, daily' or 'No, but I have previously smoked' to the question "Do you smoke?". For the previous smokers at least 10 pack years should be registered.
	<i>Diagnosis</i>					
	- COPD	NPR	ICD-10 codes J42, J44			
	- Lung cancer	NPR	ICD-10 code C33, C34			
	- Nicotine dependence	NPR	ICD-10 code F17			
	- Tobacco abuse counseling	NPR	ICD-10 code Z716			
	- Tobacco use	NPR	ICD-10 code Z720	ICD-10 code Z720D (Never smoker)		

- Toxic effect of tobacco and nicotine	NPR	ICD-10 code T652			
- Tobacco smoking	NPR	ICD-10 code Z587	ICD-10 code Z587A (Passive smoking)		
- Tobacco use, amount	NPR	ICD-10 code VRB0			
<i>Treatment/procedure</i>					
- Treatment with drugs used in nicotine dependence	NPR	SKS code BRHT			
- Consultation for smoking cessation (pregnant)	NPR	SKS code BKUA32			
- Intervention regarding smoking cessation	NPR	SKS code BQFT01			
- Treatment with regards to smoking cessation	NPR	SKS code BRXT			
- Education regarding smoking cessation	NPR	SKS code BVDT			
- Dialog regarding smoking cessation	NPR	SKS code BQFS01			
- Smoker, tried to motivate cessation	NPR	SKS code ZZP0020			
- Smoker, not tried to motivate cessation	NPR	SKS code ZZP0021			
- Smoker	NPR	SKS code ZZP01A1A			

	- Smoker, stopping [cessation within last 6 months]	NPR	SKS code ZZP01A1B1			
	- Former smoker	NPR	SKS code ZZP01A1B2			
	- COPD rehabilitation	NPR	SKS code ZZ5730			
	- Varenicline	NPrR	ATC code N07BA			
	- Bupropion	NPrR	ATC code N06AX12			
	Obesity	NPR	For patients with height and weight registered in the NPR. Obesity defined as a BMI equal to or above 30.		DSC	Self-registration of height (a1_a) and weight (a1_b) equaling a BMI equal to or above 30.
	Hormonal contraceptives⁴	NPrR	ATC codes G03AA (progestogens and estrogens, fixed combinations), G03AB (progestogens and estrogens, sequential preparations), G02BB01 (vaginal ring with progestogen and estrogen), G03AC06 (medroxyprogesterone) among women aged 15-49.			//
	Previous cancer⁵					

	- Any cancer (except NMSC)	NPR	ICD-10 codes C00-C43, C45-C96			//
	- NMSC	NPR	ICD-10 code C44			//
	Previous VTE⁶	NPR	ICD-10 codes I801-I803, I26			//
	Previous MACE¹	NPR	ICD-10 codes I21-I23, I63			//
	Age_≥65 years at index	NPR	Age calculated as (Index date-birthdate)/365.25		DSC	Age calculated as (survey date-birthdate)/365.25
Characteristics	Sex	CRS	Male / Female			//
	TB ⁷		ICD-10 codes A15-19, K230, K673, K930, M011, M490, M900, N330, N740, N741			//
	HIV ⁸		ICD-10 codes B20-24, F024, Z21			//
	Hepatitis B and C ⁷		ICD-10 codes B16-18			//
	Herpes zoster ⁸					
	- Diagnoses		ICD-10 codes B02, G051I, G051M, H031F, H131M, H190D, H192D, H192J, H220C, H621B among persons aged >40 years			//

	- Antivirals for HZ		ATC codes J05AB01 (800 mg in package of 35 tablets), J05AB11 (500 mg), J05AB09 (500 mg) in persons aged >40 years at time of prescription redemption, with no previous prescription record for any of the three antiviral drugs			//
	AD severity					
	- Mild				DSC	PO-SCORAD >0-<25
	- Moderate				DSC	PO-SCORAD \geq 25-<50
	- Severe				DSC	PO-SCORAD \geq 50

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Table SII. Prevalence of risk factors in Danish adult atopic dermatitis patients stratified according to sex and age.

	Population 1 (Register)					
	All	Sex		Age		
		Women	Men	18-50	50-65	≥65
Participants, n (%)	18,618 (100.0)	11,916 (64.0)	6,702 (36.0)	11,288 (60.6)	5,013 (26.9)	2,317 (12.4)
Age at index, mean (SD)	46.8 (15.1)	46.2 (14.7)	48.0 (15.7)	37.0 (8.4)	56.4 (4.2)	73.9 (7.0)
Diabetes, n (%)						
Ever	1,251 (6.7)	784 (6.6)	467 (7.0)	496 (4.4)	400 (8.0)	355 (15.3)
Last year	885 (4.8)	495 (4.2)	390 (5.8)	284 (2.5)	313 (6.2)	288 (12.4)
Hypertension, n (%)						
Ever	4,262 (22.9)	2,726 (22.9)	1,536 (22.9)	1,189 (10.5)	1,620 (32.3)	1,453 (62.7)
Last year	2,895 (15.5)	1,682 (14.1)	1,213 (18.1)	562 (5.0)	1,142 (22.8)	1,191 (51.4)
Hypercholesterolemia, n (%)						
Ever	2,652 (14.2)	1,418 (11.9)	1,234 (18.4)	402 (3.6)	1,063 (21.2)	1,187 (51.2)
Last year	1,913 (10.3)	1,002 (8.4)	911 (13.6)	246 (2.2)	798 (15.9)	869 (37.5)
Smoking, n (%)						
Ever	2,903 (15.6)	1,843 (15.5)	1,060 (15.8)	1,108 (9.8)	1,136 (22.7)	659 (28.4)
Obesity, n (%)[*]						
Ever	1,217 (16.3)	956 (15.6)	261 (19.5)	816 (15.2)	290 (20.2)	111 (17.4)
Hormonal contraception, n (%)[^]						
Ever		8,971 (77.8)		6,869 (90.8)	1,933 (63.4)	169 (18.4)

Last year		1,029 (13.1)		1,026 (13.6)	3 (1.0)	0 (0.0)
Cancer ex NMSC, n (%)						
Ever	1,036 (5.6)	643 (5.4)	393 (5.9)	231 (2.0)	352 (7.0)	453 (19.6)
Last year	403 (2.2)	251 (2.1)	152 (2.3)	86 (0.8)	159 (3.2)	158 (6.8)
NMSC, n (%)						
Ever	327 (1.8)	171 (1.4)	156 (2.3)	38 (0.3)	104 (2.1)	185 (8.0)
Last year	69 (0.4)	35 (0.3)	34 (0.5)	5 (0.0)	20 (0.4)	44 (1.9)
VTE, n (%)						
Ever	371 (2.0)	231 (1.9)	140 (2.1)	122 (1.1)	129 (2.6)	120 (5.2)
Last year	51 (0.3)	28 (0.2)	23 (0.3)	19 (0.2)	14 (0.3)	18 (0.8)
MACE, n (%)						
Ever	491 (2.6)	214 (1.8)	277 (4.1)	52 (0.5)	162 (3.2)	277 (12.0)
Last year	64 (0.3)	27 (0.2)	37 (0.6)	10 (0.1)	15 (0.3)	39 (1.7)
Age\geq65 at index, n (%)						
At index	2,317 (12.4)	1,304 (10.9)	1,013 (15.1)	0 (0.0)	0 (0.0)	2,317 (100.0)

*Among those with height and weight registered (all: 7456, women: 6120, men: 1336, 18-50: 5378, 50-65: 1439, \geq 65: 639).

^Among women aged 15-49 in relevant time period (all; ever: 11528, last year: 7873, 18-50; ever/last year: 7561, 50-65; ever: 3051, last year: 312, \geq 65; ever: 916, last year: 0).

AD; atopic dermatitis, MACE; major cardiovascular events, NMSC; non-melanoma skin cancer, VTE; venous thromboembolism.

Table SIII. Prevalence of risk factors in Danish adult atopic dermatitis patients stratified according to disease severity.

	Population 2 (DSC)			
	All	Mild	Moderate	Severe
Participants, n (%)	3,573 (100.0)	2,126 (59.5)	1,304 (36.5)	143 (4.0)
Age at index, mean (SD)	51.8 (14.3)	53.2 (14.4)	49.6 (13.7)	50.9 (15.1)
Diabetes, n (%)				
Ever	243 (6.8)	157 (7.4)	75 (5.8)	11 (7.7)
Last year	158 (4.4)	103 (4.8)	48 (3.7)	7 (4.9)
Hypertension, n (%)				
Ever	966 (27.0)	608 (28.6)	317 (24.3)	41 (28.7)
Last year	679 (19.0)	424 (19.9)	227 (17.4)	28 (19.6)
Hypercholesterolemia, n (%)				
Ever	642 (18.0)	399 (18.8)	211 (16.2)	32 (22.4)
Last year	451 (12.6)	279 (13.1)	152 (11.7)	20 (14.0)
Smoking, n (%)*				
Ever	979 (27.4)	552 (26.0)	381 (29.2)	46 (32.2)
Obesity, n (%)^{**}				
Ever	590 (16.5)	334 (15.7)	222 (17.0)	34 (23.8)
Hormonal contraception, n (%)[^]				
Ever	1,799 (75.9)	1,047 (74.2)	682 (78.9)	70 (74.5)
Last year	103 (7.5)	54 (6.9)	43 (8.0)	6 (11.8)
Cancer ex NMSC, n (%)				
Ever	283 (7.9)	173 (8.1)	97 (7.4)	13 (9.1)
Last year	102 (2.9)	64 (3.0)	32 (2.5)	6 (4.2)
NMSC, n (%)				
Ever	86 (2.4)	50 (2.4)	31 (2.4)	5 (3.5)
Last year	≤17 (NS)	10 (0.5)	4 (0.3)	≤3 (NS)
VTE, n (%)				
Ever	71 (2.0)	48 (2.3)	20 (1.5)	3 (2.1)
Last year	11 (0.3)	6 (0.3)	5 (0.4)	0 (0.0)
MACE, n (%)				
Ever	109 (3.1)	69 (3.2)	36 (2.8)	4 (2.8)
Last year	16 (0.4)	11 (0.5)	5 (0.4)	0 (0.0)
Age≥65 at index, n (%)				
At index	662 (18.5)	451 (21.2)	184 (14.1)	27 (18.9)

*≤3 had missing information. As we are not allowed to extract microdata from Statistics Denmark, whole population numbers were used in the denominator for calculation of percentages.

"≤34 had missing information, but for stratified groups, missings were ≤3. As we are not allowed to extract microdata from Statistics Denmark, whole population numbers were used in the denominator for calculation of percentages.

^Among women aged 15-49 in relevant time period (all; ever: 2370, last year: 1368, mild; ever: 1412, last year: 782, moderate; ever: 864, last year: 535, severe; ever: 94, last year: 51).

AD severity was divided into 3 groups: mild (PO-SCORAD: 1-25), moderate (PO-SCORAD: 25-50) and severe (PO-SCORAD: >50) AD.

AD; atopic dermatitis, DSC; Danish Skin Cohort, MACE; major cardiovascular events, NMSC; non-melanoma skin cancer, VTE; venous thromboembolism.

Table Siv. Mean, median and prevalence of total number of risk factors in Danish adult atopic dermatitis patients according to sex, age, and disease severity.

	Population 1 (Register)						Population 2 (DSC)				
	All n=18,618	<i>Sex</i>		<i>Age</i>			All n=3,573	<i>AD severity</i>			
		Women n=11,916	Men n=6,702	18-50 n=11,288	50-65 n=5,013	≥65 n=2,317		Mild n=2,126	Moderate n=1,304	Severe n=143	
Number of risk factors (all, max. 10)											
Mean (SD)	0.9 (1.3)	0.9 (1.2)	1.0 (1.4)	0.5 (0.8)	1.0 (1.2)	3.0 (1.4)		1.3 (1.4)	1.3 (1.5)	1.2 (1.4)	1.5 (1.4)
Median (IQR)	0 (0-1)	1 (0-1)	0 (0-1)	0 (0-1)	1 (0-2)	3 (2-4)		1 (0-2)	1 (0-2)	1 (0-2)	1 (0-2)
0	9,403 (50.5)	5,622 (47.2)	3,781 (56.4)	7,266 (64.4)	2,137 (42.6)	0 (0.0)	0	1,317 (36.9)	780 (36.7)	499 (38.3)	38 (26.6)
1	4,852 (26.1)	3,550 (29.8)	1,302 (19.4)	2,978 (26.4)	1,486 (29.6)	388 (16.7)	1	1,008 (28.2)	587 (27.6)	377 (28.9)	44 (30.8)
2	2,064 (11.1)	1,447 (12.1)	617 (9.2)	758 (6.7)	772 (15.4)	534 (23.0)	2	557 (15.6)	328 (15.4)	201 (15.4)	28 (19.6)
3	1,222 (6.6)	752 (6.3)	470 (7.0)	216 (1.9)	420 (8.4)	586 (25.3)	3	317 (8.9)	185 (8.7)	116 (8.9)	16 (11.2)
4	655 (3.5)	349 (2.9)	306 (4.6)	53 (0.5)	142 (2.8)	460 (19.9)	4	208 (5.8)	130 (6.1)	70 (5.4)	8 (5.6)
5+	422 (2.3)	196 (1.6)	226 (3.4)	17 (0.2)	56 (1.1)	349 (15.1)	5+	133 (3.7)	93 (4.4)	33 (2.5)	7 (4.9)
Number of non-modifiable risk factors (max. 5)											
Mean (SD)	0.4 (0.7)	0.4 (0.7)	0.4 (0.8)	0.1 (0.4)	0.4 (0.6)	1.7 (0.8)		0.6 (0.8)	0.6 (0.8)	0.6 (0.8)	0.7 (0.8)
Median (IQR)	0 (0-1)	0 (0-1)	0 (0-1)	0 (0-0)	0 (0-1)	1 (1-2)		0 (0-1)	0 (0-1)	0 (0-1)	0 (0-1)
0	13,325 (71.6)	8,646 (72.6)	4,679 (69.8)	9,869 (87.4)	3,465 (69.1)	0 (0.0)	0	2,064 (57.8)	1,226 (57.7)	764 (58.6)	74 (51.7)
1	3,865 (20.8)	2,484 (20.8)	1,381 (20.6)	1,345 (11.9)	1,330 (26.5)	1,190 (51.4)	1	1,051 (29.4)	602 (28.3)	400 (30.7)	49 (34.3)

						1,127 (48.6)					16 (11.2)	
	2	1,079 (5.8)	627 (5.3)	452 (6.7)	83 (0.7)	218 (4.3)	2	340 (9.5)	216 (10.2)	108 (8.3)		
	3	302 (1.6)	140 (1.2)	162 (2.4)			3+	117 (3.3)	81 (3.8)	32 (2.5)	4 (2.8)	
	4+	47 (0.3)	19 (0.2)	28 (0.4)								
Number of modifiable risk factors (max. 5)												
	Mean (SD)	0.6 (0.8)	0.6 (0.8)	0.5 (0.9)	0.3 (0.6)	0.7 (0.9)	1.3 (1.0)		0.7 (0.9)	0.7 (0.9)	0.7 (0.9)	0.9 (1.0)
	Median (IQR)	0 (0-1)	0 (0-1)	0 (0-1)	0 (0-1)	0 (0-1)	1 (1-2)		0 (0-1)	0 (0-1)	0 (0-1)	1 (0-1)
	0	11,537 (62.0)	6,959 (58.4)	4,578 (68.3)	8,142 (72.1)	2,817 (56.2)	578 (24.9)	0	1,920 (53.7)	1,128 (53.1)	731 (56.1)	61 (42.7)
	1	4,574 (24.6)	3,450 (29.0)	1,124 (16.8)	2,531 (22.4)	1,334 (26.6)	709 (30.6)	1	955 (26.7)	569 (26.8)	337 (25.8)	49 (34.3)
	2	1,783 (9.6)	1,124 (9.4)	659 (9.8)	475 (4.2)	588 (11.7)	720 (31.1)	2	467 (13.1)	279 (13.1)	166 (12.7)	22 (15.4)
	3	626 (3.4)	318 (2.7)	308 (4.6)	113 (1.0)	230 (4.6)	283 (12.2)	3	157 (4.4)	101 (4.8)	50 (3.8)	6 (4.2)
	4+	98 (0.5)	65 (0.5)	33 (0.5)	27 (0.2)	44 (0.9)	27 (1.2)	4+	41 (1.1)	26 (1.2)	12 (0.9)	3 (2.1)

Risk factors, all; included: diabetes, hypertension, hypercholesterolemia, smoking, obesity, hormonal contraception in the past year, cancer, VTE, MACE, and age ≥ 65 .

Non-modifiable risk factors included: smoking, cancer, VTE, MACE, age ≥ 65 .

Modifiable risk factors included: diabetes, hypertension, hypercholesterolemia, obesity, hormonal contraception in the past year.

AD severity was divided into 3 groups: mild (PO-SCORAD: 1-25), moderate (PO-SCORAD: 25-50) and severe (PO-SCORAD: >50) AD.

AD; atopic dermatitis, DSC; Danish Skin Cohort, MACE; major cardiovascular events, VTE; venous thromboembolism.

≤ 3 had missing information on smoking status in DSC. As we are not allowed to extract microdata from Statistics Denmark, whole population numbers were used in the denominator for calculation of percentages.

≤ 34 had missing BMI information in DSC, but for stratified groups, missings were ≤ 3 . As we are not allowed to extract microdata from Statistics Denmark, whole population numbers were used in the denominator for calculation of percentages.

Table Siv. Prevalence of opportunistic infections in Danish adult atopic dermatitis patients according to sex and age group.

	Population 1 (DST)					
	All n=18,618	Sex		Age		
		Women n=11,916	Men n=6,702	18-50 n=11,288	50-65 n=5,013	≥65 n=2,317
Herpes zoster, n (%)	720 (3.9)	461 (3.9)	259 (3.9)	96 (0.9)	331 (6.6)	293 (12.6)
Turberculosis, n (%)	24 (0.1)	12 (0.1)	12 (0.2)	11 (0.1)	9 (0.2)	4 (0.2)
Human immunodeficiency virus (HIV), n (%)	35 (0.2)	14 (0.1)	21 (0.3)	11 (0.1)	20 (0.4)	4 (0.2)
Hepatitis B or C, n (%)	80 (0.4)	52 (0.4)	28 (0.4)	32 (0.3)	35 (0.7)	13 (0.6)