

Supplementary Online Content

Laughter MR, Maymone MBC, Karimkhani C, et al. The burden of skin and subcutaneous diseases in the United States from 1990 to 2017. *JAMA Dermatol*. Published online June 10, 2020. doi:10.1001/jamadermatol.2020.1573

eTable 1. Highest and Lowest Disease Age-Standardized Disability-Adjusted Life-Years (DALYs), Prevalence, and Incidence (per 100 000 People) of Skin Diseases by US States in 2017

eTable 2. Rate of Age-Standardized Disability-Adjusted Life-Years (DALYs) in 2017 (per 100 000 People) for Men and Women in US States for Total Skin and Subcutaneous Conditions*, Malignant Melanoma of the Skin, and Keratinocyte Carcinoma

eTable 3. Diseases Included in “Other Skin and Subcutaneous Diseases” With ICD-10 Codes

eTable 4. The 10 Most Prevalent Skin Diseases in the US in 2017 Excluding Keratinocyte Carcinoma and Malignant Melanoma

This supplementary material has been provided by the authors to give readers additional information about their work.

eTable 1. Highest and Lowest Disease Age-Standardized Disability-Adjusted Life-Years (DALYs), Prevalence, and Incidence (per 100 000 People) of Skin Diseases by US States in 2017

	Highest Age-Standardized DALYs (Rate)	Lowest Age-Standardized DALYs (Rate)	Highest Age-Standardized Prevalence (Rate)	Lowest Age-Standardized Prevalence (Rate)	Highest Age-Standardized Incidence (Rate)	Lowest Age-Standardized Incidence (Rate)
Total skin and subcutaneous diseases*	New York (1097.04)	Wyoming (672.85)	New York (33360.58)	Wyoming (22353.21)	New York (44821.76)	Wyoming (30486.12)
Psoriasis	New York (302.86)	New Mexico (153.52)	New York (3516.44)	New Mexico (1780.78)	New York (271.72)	New Mexico (166.32)
Atopic Dermatitis	District of Columbia (279.46)	Maine (154.07)	District of Columbia (6332.12)	Maine (3495.81)	District of Columbia (495.19)	Maine (379.06)
Acne Vulgaris	New York (118.06)	Wyoming (59.85)	New York (5568.13)	Wyoming (2817.22)	New York (2531.25)	Wyoming (1565.47)
Viral skin diseases	New York (115.69)	Nevada (63.85)	New York (3767.58)	Nevada (2077.26)	New York (1986.89)	New Mexico (1412.89)
Contact Dermatitis	Connecticut (81.26)	Wyoming (47.49)	Connecticut (3251.10)	Wyoming (1903.16)	Connecticut (6783.43)	Wyoming (4932.04)
Malignant melanoma	Kentucky (76.64)	District of Columbia (42.73)	Massachusetts (189.82)	District of Columbia (88.76)	Massachusetts (22.65)	District of Columbia (10.73)

Other skin and subcutaneous diseases	Florida (63.28)	Mississippi (46.66)	Florida (11435.94)	Mississippi (8179.44)	Florida (11896.19)	Mississippi (8522.24)
Urticaria	Hawaii (60.61)	Wyoming (40.88)	Hawaii (1005.68)	Wyoming (680.96)	Hawaii (1763.22)	Wyoming (1221.82)
Squamous-cell carcinoma	Florida (35.31)	Alaska (16.27)	Florida (521.77)	Alaska (163.67)	Florida (424.54)	Alaska (125.45)
Scabies	Kentucky (21.56)	Wyoming (6.93)	Kentucky (836.81)	Wyoming (267.86)	Kentucky (2433.47)	Wyoming (844.81)
Pyoderma	District of Columbia (21.35)	California (6.41)	Hawaii (88.18)	Colorado (58.42)	Louisiana (1926.12)	Colorado (1108.39)
Fungal skin diseases	New York (19.69)	Wyoming (7.88)	New York (3585.78)	Wyoming (1425.78)	New York (10284.94)	Wyoming (5367.89)
Cellulitis	Mississippi (19.65)	Minnesota (12.63)	Louisiana (151.96)	Minnesota (100.20)	Louisiana (4156.20)	Minnesota (2302.90)
Decubitus Ulcer	District of Columbia (17.59)	Vermont (5.71)	Louisiana (37.66)	Vermont (23.29)	Louisiana (139.28)	Vermont (84.69)
Alopecia areata	District of Columbia (16.50)	Wyoming (9.67)	District of Columbia (504.86)	Wyoming (297.14)	District of Columbia (886.80)	Wyoming (528.95)

Pruritus	Hawaii (10.96)	Wyoming (4.25)	Hawaii (1031.32)	Wyoming (401.47)	Hawaii (736.57)	Wyoming (356.40)
Seborrhoeic Dermatitis	District of Columbia (9.62)	Wyoming (3.66)	District of Columbia (714.26)	Wyoming (272.91)	District of Columbia (1005.03)	Wyoming (626.67)
Basal-cell carcinoma	Florida (0.34)	Alaska (0.20)	Florida (83.06)	Alaska (48.58)	Florida (943.88)	Alaska (505.53)

*Included skin and subcutaneous diseases: dermatitis (atopic, seborrheic, and contact), psoriasis, cellulitis, pyoderma, scabies, fungal skin diseases, viral skin diseases, acne vulgaris, alopecia areata, pruritus, urticaria, decubitus ulcer, and ‘other skin and subcutaneous diseases’. **Does not include malignant melanoma or keratinocyte carcinoma.**

eTable 2. Rate of Age-Standardized Disability-Adjusted Life-Years (DALYs) in 2017 (per 100 000 People) for Men and Women in US States for Total Skin and Subcutaneous Conditions*, Malignant Melanoma of the Skin, and Keratinocyte Carcinoma

State	Skin and Subcutaneous Diseases		Malignant Melanoma		Keratinocyte Carcinoma	
	Women	Men	Women	Men	Women	Men
United States	971.20 (676.76 to 1,334.59)	799.23 (559.62 to 1,091.50)	42.74 (34.05 to 70.66)	80.82 (51.68 to 123.18)	14.42 (10.01 to 20.66)	37.56 (29.35 to 49.52)
Alabama	884.47 (615.48 to 1,220.29)	708.62 (493.99 to 973.02)	50.29 (31.95 to 78.17)	96.81 (60.67 to 148.23)	17.27 (11.77 to 25.37)	46.58 (35.21 to 64.32)
Alaska	818.38 (570.35 to 1,120.81)	661.53 (461.53 to 900.13)	49.05 (32.88 to 72.19)	71.61 (50.12 to 126.24)	8.19 (5.73 to 11.44)	24.61 (19.31 to 32.76)
Arizona	944.26 (649.71 to 1,304.87)	771.65 (539.22 to 1,057.70)	42.97 (31.02 to 64.60)	85.42 (49.42 to 114.47)	15.97 (10.41 to 24.26)	45.58 (33.75 to 61.14)
Arkansas	789.07 (552.17 to 1,084.96)	659.96 (461.15 to 895.11)	49.78 (31.87 to 75.43)	93.80 (58.79 to 146.63)	15.33 (11.35 to 21.26)	38.66 (28.98 to 52.56)
California	997.33 (680.95 to 1,369.96)	830.28 (573.71 to 1,137.46)	36.38 (27.23 to 66.66)	71.18 (44.05 to 107.93)	14.21 (9.26 to 21.24)	36.57 (27.09 to 50.07)
Colorado	845.89 (580.98 to 1,166.88)	688.53 (478.01 to 942.11)	49.72 (33.45 to 67.39)	86.78 (48.63 to 119.22)	15.81 (10.55 to 23.53)	38.43 (28.52 to 52.93)
Connecticut	1,109.45 (769.62 to 1,521.40)	911.81 (641.77 to 1,246.00)	41.43 (30.31 to 67.28)	77.70 (48.83 to 130.48)	13.29 (8.82 to 19.63)	30.75 (22.55 to 42.61)
Delaware	940.94 (656.57 to 1,287.14)	777.31 (549.31 to 1,055.98)	49.56 (32.13 to 75.65)	94.88 (54.18 to 129.97)	16.46 (11.14 to 23.78)	41.30 (32.57 to 53.59)
District of Columbia	1,108.52 (763.25 to 1,533.53)	993.18 (681.99 to 1,364.09)	30.44 (19.75 to 88.19)	56.67 (31.27 to 169.79)	12.79 (8.81 to 18.42)	41.72 (33.03 to 53.32)
Florida	1,016.50 (706.17 to 1,401.79)	833.84 (582.46 to 1,140.03)	44.01 (31.96 to 74.00)	86.79 (51.80 to 124.50)	21.04 (13.19 to 32.82)	52.73 (38.36 to 75.45)
Georgia	1,008.08 (697.59 to 1,393.58)	809.52 (563.78 to 1,104.91)	42.51 (30.95 to 72.86)	80.19 (54.24 to 125.21)	15.38 (10.28 to 22.47)	40.29 (29.56 to 55.99)
Hawaii	1,112.48 (758.69 to 1,523.14)	851.15 (592.60 to 1,166.81)	31.73 (23.15 to 67.16)	61.40 (42.65 to 110.69)	14.17 (9.45 to 21.06)	33.54 (24.45 to 47.07)

Idaho	833.71 (577.95 to 1,143.85)	690.33 (479.49 to 943.58)	50.19 (32.57 to 65.73)	95.27 (45.60 to 128.76)	14.74 (10.45 to 20.86)	37.48 (28.39 to 50.56)
Illinois	900.44 (626.46 to 1,236.14)	759.91 (532.30 to 1,034.79)	41.01 (30.53 to 72.88)	72.05 (48.62 to 126.40)	10.97 (7.75 to 15.90)	27.70 (21.17 to 37.11)
Indiana	891.83 (620.40 to 1,213.60)	726.37 (510.26 to 993.03)	48.17 (31.19 to 73.63)	92.21 (54.91 to 130.68)	14.44 (10.08 to 20.90)	36.21 (27.67 to 48.14)
Iowa	837.43 (578.44 to 1,153.40)	693.14 (483.50 to 943.30)	45.67 (33.03 to 67.46)	78.12 (45.73 to 116.87)	12.36 (8.71 to 17.75)	30.42 (24.12 to 39.00)
Kansas	847.39 (589.53 to 1,154.63)	699.79 (488.62 to 956.79)	50.98 (33.87 to 75.37)	88.15 (51.08 to 127.26)	13.49 (9.63 to 19.20)	37.31 (29.28 to 48.00)
Kentucky	946.25 (664.68 to 1,300.55)	765.39 (535.47 to 1,054.24)	52.48 (30.82 to 81.38)	103.62 (60.13 to 148.37)	18.20 (12.86 to 26.27)	48.16 (36.92 to 64.53)
Louisiana	1,025.89 (716.93 to 1,409.17)	825.53 (572.82 to 1,135.12)	39.71 (29.02 to 75.09)	76.11 (53.28 to 149.52)	12.01 (8.38 to 17.15)	38.11 (28.73 to 50.93)
Maine	840.48 (586.63 to 1,140.68)	710.75 (499.46 to 959.86)	47.04 (34.01 to 70.51)	90.68 (50.18 to 134.36)	15.80 (11.03 to 22.63)	34.68 (26.33 to 46.25)
Maryland	1,036.40 (718.08 to 1,426.98)	843.84 (586.86 to 1,151.38)	39.59 (28.95 to 74.50)	81.40 (55.62 to 142.14)	12.50 (8.57 to 18.33)	32.85 (24.97 to 44.17)
Massachusetts	1,040.46 (721.99 to 1,426.05)	894.50 (631.53 to 1,219.47)	47.94 (34.11 to 75.14)	87.34 (52.46 to 143.91)	14.71 (9.71 to 21.82)	34.28 (25.77 to 45.71)
Michigan	983.77 (684.94 to 1,351.27)	804.49 (559.81 to 1,097.75)	41.92 (30.56 to 78.57)	77.99 (53.14 to 142.72)	11.93 (8.41 to 16.89)	29.86 (22.79 to 39.96)
Minnesota	865.42 (599.72 to 1,189.39)	711.31 (496.95 to 968.86)	41.76 (31.09 to 71.83)	74.63 (44.43 to 117.22)	11.34 (7.81 to 16.80)	26.70 (20.34 to 35.09)
Mississippi	772.45 (537.09 to 1,064.61)	645.69 (445.07 to 887.91)	42.83 (30.32 to 78.43)	84.42 (58.55 to 151.49)	14.46 (10.18 to 20.79)	43.54 (33.65 to 57.76)
Missouri	857.72 (602.65 to 1,179.85)	707.64 (493.33 to 970.68)	48.29 (31.62 to 72.47)	92.09 (54.79 to 134.67)	12.75 (9.08 to 18.03)	35.70 (27.69 to 46.34)
Montana	816.59 (569.10 to 1,118.75)	651.51 (454.12 to 893.20)	57.31 (35.49 to 79.17)	96.02 (55.59 to 134.16)	12.50 (8.57 to 18.57)	32.67 (24.59 to 43.69)
Nebraska	841.63	677.28	48.79	88.68	14.08	36.79

	(584.17 to 1,156.26)	(471.79 to 920.67)	(34.74 to 71.45)	(49.08 to 124.54)	(9.65 to 20.40)	(27.54 to 49.51)
Nevada	844.14 (581.96 to 1,160.15)	702.91 (482.26 to 957.63)	41.45 (30.32 to 64.25)	85.21 (48.84 to 122.10)	13.68 (9.51 to 20.00)	38.17 (29.06 to 52.25)
New Hampshire	900.15 (631.38 to 1,229.25)	752.84 (531.58 to 1,023.31)	49.71 (33.59 to 75.89)	84.54 (47.45 to 132.04)	14.41 (9.95 to 21.19)	36.25 (27.87 to 48.76)
New Jersey	1,097.97 (754.38 to 1,510.88)	934.62 (650.00 to 1,283.25)	39.55 (29.39 to 69.20)	75.00 (48.40 to 130.53)	12.72 (8.31 to 19.01)	30.37 (22.25 to 41.90)
New Mexico	798.43 (546.13 to 1,104.99)	654.79 (455.28 to 901.98)	45.81 (30.09 to 66.63)	85.85 (53.16 to 134.29)	12.87 (9.02 to 17.94)	36.50 (28.73 to 47.32)
New York	1,200.00 (831.19 to 1,637.25)	994.87 (699.12 to 1,360.75)	35.73 (25.82 to 70.40)	65.31 (46.33 to 125.68)	12.00 (8.05 to 17.64)	28.71 (21.21 to 39.02)
North Carolina	926.82 (647.55 to 1,264.66)	761.37 (531.47 to 1,038.51)	44.81 (32.03 to 65.82)	80.51 (52.87 to 125.41)	15.80 (10.56 to 22.69)	42.77 (32.78 to 57.42)
North Dakota	801.05 (560.83 to 1,096.02)	644.64 (449.38 to 872.83)	47.89 (35.80 to 84.49)	80.55 (54.81 to 142.82)	10.95 (7.88 to 15.28)	25.23 (20.06 to 32.78)
Ohio	947.11 (662.35 to 1,298.87)	774.63 (542.53 to 1,060.28)	48.80 (33.10 to 77.45)	92.28 (56.83 to 137.86)	12.89 (8.97 to 18.79)	32.96 (25.61 to 42.86)
Oklahoma	883.02 (612.94 to 1,212.23)	731.06 (506.10 to 1,001.29)	53.40 (31.22 to 78.78)	101.24 (57.05 to 143.39)	14.27 (10.53 to 19.86)	45.19 (36.36 to 56.49)
Oregon	993.26 (689.41 to 1,366.38)	824.90 (574.73 to 1,124.62)	49.38 (33.84 to 69.52)	87.31 (48.08 to 124.12)	15.37 (10.29 to 23.23)	35.59 (26.12 to 50.20)
Pennsylvania	984.46 (691.11 to 1,346.35)	815.04 (566.83 to 1,108.68)	46.95 (33.01 to 73.60)	85.80 (53.97 to 140.44)	13.70 (9.20 to 19.84)	34.22 (25.91 to 46.60)
Rhode Island	969.76 (678.66 to 1,334.50)	820.99 (580.32 to 1,125.68)	43.63 (32.88 to 69.92)	85.04 (51.94 to 136.80)	16.30 (11.12 to 23.58)	40.91 (30.50 to 55.51)
South Carolina	1,020.99 (710.77 to 1,401.23)	820.16 (567.65 to 1,124.34)	43.65 (31.84 to 72.42)	88.57 (56.36 to 143.28)	18.38 (12.46 to 26.64)	48.21 (36.61 to 64.62)
South Dakota	833.86 (579.16 to 1,150.97)	673.31 (469.18 to 919.05)	56.78 (35.23 to 78.02)	83.00 (55.50 to 135.89)	13.67 (9.77 to 19.17)	38.08 (29.38 to 50.12)
Tennessee	892.88 (621.44 to 1,225.18)	722.16 (503.29 to 992.87)	47.00 (31.73 to 74.07)	94.27 (55.18 to 135.72)	18.09 (12.91 to 25.61)	48.92 (38.43 to 64.42)
Texas	976.75	801.95	36.39	69.44	14.07	42.99

	(680.02 to 1,343.73)	(557.31 to 1,089.78)	(27.55 to 67.15)	(49.36 to 116.10)	(9.77 to 20.31)	(32.71 to 56.59)
Utah	828.53 (569.50 to 1,157.01)	682.20 (472.25 to 941.37)	50.78 (32.08 to 69.02)	100.63 (44.51 to 133.43)	15.64 (10.20 to 23.53)	41.16 (29.67 to 58.54)
Vermont	814.01 (568.21 to 1,117.81)	677.91 (476.90 to 925.20)	45.53 (34.28 to 70.75)	92.83 (47.43 to 127.64)	12.51 (8.62 to 18.71)	33.42 (26.31 to 44.34)
Virginia	1,007.20 (694.88 to 1,382.58)	808.24 (556.67 to 1,102.57)	44.24 (33.26 to 70.04)	81.96 (49.71 to 127.41)	14.19 (9.71 to 20.61)	35.97 (27.43 to 48.29)
Washington	999.41 (698.74 to 1,368.08)	814.66 (565.40 to 1,112.36)	44.55 (33.02 to 69.88)	83.37 (45.74 to 115.01)	13.69 (9.26 to 20.09)	32.83 (25.50 to 43.69)
West Virginia	903.54 (632.62 to 1,232.57)	740.10 (517.61 to 1,009.74)	54.91 (29.78 to 77.47)	97.31 (53.93 to 135.89)	15.58 (11.27 to 21.88)	39.31 (30.60 to 51.31)
Wisconsin	864.36 (604.24 to 1,187.43)	705.48 (491.29 to 960.80)	39.83 (29.43 to 70.18)	80.99 (47.16 to 121.99)	10.13 (6.97 to 14.93)	28.18 (21.81 to 37.57)
Wyoming	742.10 (511.38 to 1,019.86)	609.93 (423.85 to 1,019.86)	52.22 (31.97 to 73.44)	94.28 (51.37 to 131.49)	14.47 (9.81 to 20.71)	35.21 (25.65 to 49.66)

* Included skin and subcutaneous diseases: dermatitis (atopic, seborrheic, and contact), psoriasis, cellulitis, pyoderma, scabies, fungal skin diseases, viral skin diseases, acne vulgaris, alopecia areata, pruritus, urticaria, decubitus ulcer, and ‘other skin and subcutaneous diseases’. **Does not include malignant melanoma or keratinocyte carcinoma. (Rate per 100 000 people)**

eTable 3. Diseases Included in “Other Skin and Subcutaneous Diseases” With ICD-10 Codes

Other Skin and Subcutaneous Disease	ICD-10 Code
Pediculosis and phthiriasis	B85
Myiasis	B87
Other infestations	B88
Pilonidal cyst with and without abscess	L05.0 and L05.9
Pemphigus	L10
Other acantholytic disorders	L11
Pemphigoid	L12
Other bullous disorders	L13
Lichen simplex chronicus and prurigo	L28
Other dermatitis	L30
Pityriasis rosea	L42
Lichen planus	142
Other papulosquamous disorders	L44
Erythema multiforme	L51
Erythema nodosum	L52
Other erythematous conditions	L53
Sunburn	L55
Other acute skin changes due to ultraviolet radiation	L56

Skin changes due to chronic exposure to nonionizing radiation	L57
Radiodermatitis	L58
Other disorders of skin and subcutaneous tissue related to radiation	L59
Nail disorder	L60
Androgenic alopecia	L64
Other nonscarring hair loss	L65
Cicatricial alopecia (scarring hair loss)	L66
Hair color and hair shaft abnormalities	L67
Hypertrichosis	L68
Rosacea	L71
Follicular cysts of skin and subcutaneous tissue	L72
Other follicular disorders	L73
Eccrine sweat disorders	L74
Apocrine sweat disorder	L75
Vitiligo	L80
Other disorders of pigmentation	L81
Seborrheic keratosis	L82
Acanthosis nigricans	L83
Corns and callosities	L84
Other epidermal thickening	L85
Transepidermal elimination disorders	L87

Atrophic disorders of skin	L90
Hypertrophic disorders of skin	L91
Granulomatous disorders of skin and subcutaneous tissue	L92
Lupus erythematosus	L93
Other localized connective tissue disorders	L94
Vasculitis limited to skin, not elsewhere classified	L95

eTable 4. The 10 Most Prevalent Skin Diseases in the US in 2017 Excluding Keratinocyte Carcinoma and Malignant Melanoma

(Data available at <https://vizhub.healthdata.org/gbd-compare/>).

1. Other skin and subcutaneous diseases
2. Dermatitis
3. Acne
4. Viral skin diseases
5. Psoriasis
6. Fungal Skin diseases
7. Urticaria
8. Pruritus
9. Scabies
10. Alopecia Areata