

Supplementary Table SI. The incidence cases, prevalence cases, incidence rate, prevalence rate, and YLDs rate of osteoarthritis in 51 states of the United States in 2021

Location	Incidence cases	Prevalence cases	Incidence rate	Prevalence rate	YLDs rate
Alabama	49116.6 (43676.8–54769)	736548.6 (660724–812424.8)	677.98 (603.2–751.7)	8807.09 (7896.5–9699.2)	313.84 (151–633.2)
Alaska	6395.3 (5647.1–7139.5)	89510.2 (80029.2–99425.8)	645.86 (572.6–714.1)	8429.22 (7549.6–9294)	302.12 (145.4–613.1)
Arizona	68358.8 (60816.9–76031.7)	1042594 (933329–1150051.6)	672.03 (595–744)	8741.94 (7834.7–9645.6)	312.01 (150.4–628.4)
Arkansas	26905.5 (23953.2–30033)	406881.1 (360957.9–448939.5)	632.74 (558.9–700.8)	8236.03 (7313.2–9088.8)	293.15 (141.9–588.8)
California	336619.2 (297132.8–377302)	4822420 (4298130.6–5391464.2)	604.49 (534.4–674.2)	7784.15 (6925.3–8672.8)	276.03 (132.5–557.4)
Colorado	56992.4 (50491.7–63578.6)	828308.7 (740839.8–917781.7)	687.59 (611.1–759.1)	8939.6 (7988.8–9880.3)	322.05 (155.7–644)
Connecticut	37336.1 (33224.8–41742.1)	568031 (509376.4–627354.6)	677.4 (599.9–752.7)	8806.11 (7915.5–9741.8)	316.74 (151.8–634)
Delaware	10821.6 (9578.1–12105)	167252.6 (150826.3–183965.5)	732.13 (647.3–809.7)	9476.27 (8549.2–10445.3)	341.19 (164.9–679.8)
District of Columbia	5556.7 (4945.5–6154.9)	75834.6 (67731.8–83829.2)	617.69 (545.8–686.2)	8080.59 (7201.7–8925.9)	289.76 (139.6–582.8)
Florida	221866 (196453–246821.1)	3483618.3 (3124868.1–3845040.3)	665.92 (591.8–736.5)	8644.5 (7766.7–9537.4)	307.83 (147.8–616.3)
Georgia	100168.7 (88743.5–111750.2)	1428435.5 (1275823.7–1579084.1)	665.65 (590.7–737.2)	8629.02 (7723–9511.5)	307.47 (148.1–618.1)
Hawaii	13122 (11574–14716.3)	204713.5 (182843–226757.4)	606.88 (537.1–678.1)	7915.58 (7066.9–8770.4)	281.96 (135.8–563)
Idaho	16025.4 (14221.4–17857)	241816.7 (216665.9–267112)	643.44 (569.4–712.3)	8393.04 (7509.5–9283)	299.78 (144.3–601.8)
Illinois	121489.6 (107546.2–135519.6)	1797373.8 (1601301.8–1986270.9)	660.53 (583.9–730.7)	8592.73 (7703.4–9504.8)	308.53 (148.4–618.9)
Indiana	66395.8 (58983.9–73688.6)	989631.6 (892897.4–1091890.4)	693.16 (615.6–763.4)	9025.48 (8150.6–9963.8)	323.25 (156.6–648.8)
Iowa	28743 (25260.5–32286.6)	444785 (396511.8–490345.4)	629.67 (553.7–697)	8205.39 (7344.4–9039.6)	293.17 (141.8–585.2)

Kansas	) 25769 (22848.5–28848.7)	386632.2 (344723.6–430397.6)	636.73 (564.1–709.9)	8270.38 (7413.8–9234)	293.95 (142.6–585)
Kentucky	) 45774.9 (40551.1–50906.4)	682911.3 (610181–755223.2)	703.39 (621.1–778)	9131.58 (8149.2–10116.5)	325.52 (158.9–650.5)
Louisiana	) 44114 (39250.2–49147.5)	646154.7 (576691.2–717831.7)	683.81 (606.4–757.1)	8871.74 (7956.6–9866.4)	316 (153.3–636.1)
Maine	) 14742.3 (13032.4–16474.6)	233990.4 (209295.9–259505.3)	653.78 (580.9–726.1)	8506.09 (7622.5–9414)	303.61 (146.6–609.3)
Maryland	) 63043.8 (55812.6–70039.6)	924131.3 (825599.1–1017945.8)	701.19 (620.9–774.5)	9087.05 (8141.6–10058)	326.73 (158.3–654.2)
Massachusetts	) 69936 (61722.7–78071.3)	) 1058109.9 (942765.5–1170034.3)	660.02 (583.1–735.3)	8667.53 (7748.8–9586.8)	311.75 (150–629.6)
Michigan	) 110692.2 (97322.9–123876.1)	) 1725816.3 (1543591.6–1905428.3)	738.86 (652.7–823.2)	9675.2 (8674.9–10666.9)	351.38 (169.3–712.7)
Minnesota	1) 51799.9 (45789.8–57910.4)	3) 779893.3 (694762.5–867238.4)	622.05 (550.9–691.8)	8142.64 (7267.1–9000.5)	291.77 (140.7–590.4)
Mississippi	) 26029.6 (22893.4–29259)	385886.1 (342937.4–429482)	624.34 (548.9–695.8)	8112 (7211.9–9029.6)	287.96 (137.8–578.3)
Missouri	60349 (53385.1–67385.5)	916849.5 (821865.3–1008392.6)	680.14 (602.2–754.8)	8834.52 (7945.6–9730.5)	315.79 (152.8–628.7)
Montana	) 10524.9 (9338.8–11742.2)	) 166999.6 (149244–184288)	639.67 (565.9–707.6)	8352.25 (7481–9216.1)	298.71 (144.1–604.7)
Nebraska	17907.7 (15878.1–19962.7)	269927.7 (242232.7–297978.6)	665.13 (589.7–737.8)	8638.3 (7753.7–9545)	309.27 (148.1–625.4)
Nevada	) 29178.3 (25769.8–32496.9)	421321.6 (374727.4–465585)	660.81 (585.5–733.8)	8598.66 (7678.4–9493.6)	306.99 (145.4–615.8)
New Hampshire	) 15502 (13680.6–17358.7)	235701 (211201–259753.7)	690.1 (610.5–764.8)	8945.7 (8036–9858.7)	320.88 (155.8–646.2)
New Jersey	) 94564.3 (83644.7–105695.1)	1394236.3 (1244965.9–1544914.2)	681.14 (603.4–755.6)	8819.93 (7906.4–9742.6)	315.96 (151.3–635.6)

New Mexico	20250.4 (17944.5–22644.1)	314482.6 (281290.4–346970.7)	668.39 (594.6–740)	8706.1 (7789.9–9645.9)	310.19 (150.8–621.2)
New York	206112 (183070.3–228302 .7)	3077038 (2766822.3–3376492)	701.53 (622–772.6)	9099.72 (8186.2–10068.1)	326.66 (157.5–652.7)
North Carolina	93508.9 (82398.9–105689. 3)	1375698.2 (1220491.6–1532727)	612.55 (536.6–687.2)	7877.63 (6977–8810.3)	277.55 (134.5–563.5)
North Dakota	6931.5 (6184.9–7757)	106960.9 (96006.8–118122.1)	645.25 (571.4–717.8)	8441.53 (7575.1–9347.5)	302.27 (145–611)
Ohio	128515.1 (114427.6–143143)	1962898.2 (1766270.7–2148133. 1)	744.49 (661.1–822.9)	9657.9 (8693.7–10588.3)	348.52 (169.4–704.3)
Oklahoma	37503.1 (33388.7–41870)	559879.2 (502013.7–614887.7)	693.52 (613.3–769.9)	9009.5 (8071.7–9920.6)	321.69 (156–646.9)
Oregon	41047 (36361.1–45789.2)	634352.6 (567445.9–702063.2)	642.96 (569.6–713.2)	8375.8 (7506.5–9229.7)	299.64 (144.5–601.4)
Pennsylvania	144797.4 (128159.7–162087 .5)	2252184.4 (2031170.3–2472540. 5)	748.74 (663.3–830.8)	9738.88 (8766.9–10734.7)	352.89 (169.5–707.6)
Rhode Island	11116 (9845.3–12458.4)	168073.4 (149632.3–185776.9)	662.23 (586.1–734.3)	8607.47 (7694.1–9459.7)	308 (149.8–620)
South Carolina	49682.8 (44159.8–55603.9)	755508.2 (675664.8–837319.9)	658.82 (583.4–731.9)	8556.09 (7650.3–9471.7)	304.09 (146–614.4)
South Dakota	7767 (6882.8–8723.4)	120477.1 (108032.2–133270.4)	623.36 (552.4–692.9)	8127.38 (7256.4–8987.7)	289.56 (138.7–582)
Tennessee	70424.3 (62426.5–78642)	1049879.4 (937370.4–1153401.1)	702.62 (620–778.3)	9091.94 (8144.9–10009.3)	324.71 (156.6–658)
Texas	255886 (227195.4–286487 .3)	3581682.2 (3199642.1–3952240. 1)	660.68 (585.2–736.3)	8565.24 (7666.4–9498.5)	305.59 (147.3–614.2)
Utah	25962.7 (23178–28845.5)	358952.2 (321119–395278.5)	690.25 (614.1–767.6)	8973.5 (8046.1–9845.1)	322.54 (155.9–655.9)
Vermont	6654.8 (5863.8–7468.5)	104942.9 (93953–116086.7)	641.37 (567.3–714.8)	8369.67 (7472.8–9235.5)	300.4 (144.4–600.3)
Virginia	84100.8 (74492.7–93576.1)	1231550.9 (1100391.7–1358593. 8)	674.19 (596.3–745.2)	8755.09 (7800.8–9651)	313.32 (149.5–628.7)
Washington	73249.3 (65035–81539.9)	1091318.4 (973849–1202869.5)	650.48 (577.7–718.9)	8484.1 (7586.7–9345.8)	304.37 (147.4–610.2)

West Virginia	19756.8 (17633.3–22026)	311451.1 (281096.9–342456.7)	718.87 (643–796.5)	9321.52 (8451.9–10267.7)	332.96 (160.2–675.9)
Wisconsin	58330.4 (51857.6–64975.2)	887448 (795352–976409.1)	667.27 (593–736.1)	8698.33 (7819.4–9562.2)	312.66 (150.7–629.7)
Wyoming	5264.5 (4650.7–5871.4)	80006.8 (71599.7–88405.2)	641.94 (570.3–711.5)	8384.83 (7528.8–9279.9)	299.95 (144.9–605.9)

YLDs – Years Lived with Disability.

Supplementary Table SII. Decomposition analysis of incidence of osteoarthritis in global, regions with 5 SDI quintiles, China, India, and United States

Location	Gender	Overall difference	Aging	Population	Epidemiology change
Global	Male	10425691.03	1009083.09 (9.68%%)	8237415.06 (79.01%%)	1179192.88 (11.31%%)
	Female	15305942.85	1324721.45 (8.65%%)	12250717.16 (80.04%%)	1730504.24 (11.31%%)
	Both	25731633.87	2350476.89 (9.13%%)	20457243.58 (79.5%%)	2923913.39 (11.36%%)
High SDI	Male	1868713.93	299833.69 (16.04%%)	1333719.66 (71.37%%)	235160.58 (12.58%)
	Female	2455955.57	350585.88 (14.27%)	1738820.83 (70.8%)	366548.85 (14.92%)
	Both	4324669.5	662195.5 (15.31%)	3107412.93 (71.85%)	555061.07 (12.83%)
High-middle SDI	Male	2112881.7	308250.54 (14.59%)	1537776.65 (72.78%)	266854.51 (12.63%)
	Female	3103385.18	381499.32 (12.3%)	2250344.4 (72.51%)	471541.46 (15.19%)
	Both	5216266.88	702383.06 (13.47%)	3802743.32 (72.9%)	711140.5 (13.63%)
Middle SDI	Male	3835087.94	452698.83 (11.8%)	2893536.29 (75.45%)	488852.82 (12.75%)
	Female	5851958.83	666260.41 (11.39%)	4470348.65 (76.39%)	715349.77 (12.22%)
	Both	9687046.77	1118697.74 (11.55%)	7316455.1 (75.53%)	1251893.92 (12.92%)
Low-middle SDI	Male	1881881.84	64489.49 (3.43%)	1551454.59 (82.44%)	265937.76 (14.13%)
	Female	2895303.2	141786.74 (4.9%)	2374340.12 (82%)	379176.35 (13.1%)
	Both	4777185.04	200270.29 (4.19%)	3898405.63 (81.6%)	678509.12 (14.2%)
Low SDI	Male	720236.27	-27337.86 (-3.8%)	668821.28 (92.86%)	78752.85 (10.93%)
	Female	990117.54	-16699.4 (-1.69%)	914385.31 (92.35%)	92431.63 (9.34%)
	Both	1710353.81	-46004.31 (-2.69%)	1578642.28 (92.3%)	177715.85 (10.39%)
China	Male	2770372.16	464752.8 (16.78%)	1871746.05 (67.56%)	433873.31 (15.66%)
	Female	4228207.55	664095.34 (15.71%)	2998194.65 (70.91%)	565917.56 (13.38%)
	Both	6998579.71	1135336.78 (16.22%)	4828770.83 (69%)	1034472.1(14.78%)
India	Male	1578664.72	79842.45 (5.06%)	1276439.11 (80.86%)	222383.16 (14.09%)
	Female	2648257.24	159311.09 (6.016%)	2111232.75 (79.72%)	377713.4 (14.26%)
	Both	4226921.96	230442.32 (5.45%)	3351577.44 (79.29%)	644902.2 (15.26%)
United States of America	Male	597760.58	132912.68 (22.24%)	418065.28 (69.94%)	46782.62 (7.83%)
	Female	824359.29	168516.16 (20.44%)	536684.56 (65.1%)	119158.57 (14.45%)
	Both	1422119.87	302623.65 (21.28%)	960663.61 (67.55%)	158832.62 (11.17%)

SDI – Socio-Demographic Index.