

SUPPLEMENTARY MATERIAL

Supplementary Table 1. Age-adjusted incidence rates (AAIR) and incidence rate ratios (IRR) and 95% confidence interval by % rural in California (2015-2019), overall.

Cancer Site	%Rural	Population	Case	Overall		
				AAIR	IRR	P
Breast	0%	57,151,857	76,783	120.45 (119.59 to 121.33)	1.00	
	0<-<10%	26,439,189	39,785	131.06 (129.74 to 132.38)	1.09 (1.07 to 1.10)	<.0001
	10%<-<20%	6,962,410	10,386	126.15 (123.66 to 128.68)	1.05 (1.03 to 1.07)	<.0001
	20%<-<30%	2,789,004	3,560	119.32 (115.34 to 123.40)	0.99 (0.96 to 1.03)	0.6487
	30%<-<40%	1,516,378	1,945	111.43 (106.32 to 116.73)	0.93 (0.88 to 0.97)	0.0013
	40%<-<50%	1,262,773	1,902	114.59 (109.21 to 120.19)	0.95 (0.91 to 1.00)	0.0513
	50%+	2,855,014	4,758	114.79 (111.29 to 118.37)	0.95 (0.92 to 0.98)	0.0032
	<i>P for trend of AAIR</i>					<i>0.7559</i>
Prostate	0%	55,959,826	52,270	90.67 (89.88 to 91.47)	1.00	
	0<-<10%	26,023,709	29,965	104.35 (103.14 to 105.56)	1.15 (1.13 to 1.17)	<.0001
	10%<-<20%	6,966,672	8,122	99.46 (97.26 to 101.70)	1.10 (1.07 to 1.12)	<.0001
	20%<-<30%	2,916,986	2,861	94.38 (90.84 to 98.03)	1.04 (1.00 to 1.08)	0.0458
	30%<-<40%	1,606,604	1,803	94.33 (89.91 to 98.93)	1.04 (0.99 to 1.09)	0.1084
	40%<-<50%	1,359,226	1,773	95.05 (90.55 to 99.74)	1.05 (1.00 to 1.10)	0.0607
	50%+	2,982,835	4,367	92.09 (89.29 to 94.98)	1.02 (0.98 to 1.05)	0.3446
	<i>P for trend of AAIR</i>					<i>0.6005</i>
Male/Lung	0%	55,959,826	22,865	43.11 (42.54 to 43.69)	1.00	
	0<-<10%	26,023,709	11,403	43.69 (42.88 to 44.52)	1.01 (0.99 to 1.04)	0.2539
	10%<-<20%	6,966,672	3,278	44.08 (42.55 to 45.65)	1.02 (0.98 to 1.06)	0.2410
	20%<-<30%	2,916,986	1,242	46.03 (43.43 to 48.75)	1.07 (1.01 to 1.13)	0.0312
	30%<-<40%	1,606,604	886	50.24 (46.90 to 53.77)	1.17 (1.09 to 1.25)	<.0001
	40%<-<50%	1,359,226	705	41.87 (38.73 to 45.20)	0.97 (0.90 to 1.05)	0.4992
	50%+	2,982,835	2,139	48.96 (46.83 to 51.17)	1.14 (1.08 to 1.19)	<.0001
	<i>P for trend of AAIR</i>					<i>0.0348</i>
Female/Lung	0%	57,151,857	22,527	33.65 (33.20 to 34.09)	1.00	
	0<-<10%	26,439,189	12,151	38.54 (37.84 to 39.24)	1.15 (1.12 to 1.17)	<.0001
	10%<-<20%	6,962,410	3,315	37.69 (36.40 to 39.02)	1.12 (1.08 to 1.16)	<.0001
	20%<-<30%	2,789,004	1,097	36.49 (34.33 to 38.76)	1.08 (1.02 to 1.15)	0.0108
	30%<-<40%	1,516,378	854	44.60 (41.60 to 47.77)	1.33 (1.23 to 1.42)	<.0001
	40%<-<50%	1,262,773	738	41.08 (38.10 to 44.26)	1.22 (1.13 to 1.32)	<.0001
	50%+	2,855,014	2,098	45.43 (43.44 to 47.49)	1.35 (1.29 to 1.41)	<.0001
	<i>P for trend of AAIR</i>					<i>0.0123</i>
Male/CRC	0%	55,959,826	21,842	39.41 (38.88 to 39.95)	1.00	
	0<-<10%	26,023,709	10,465	38.97 (38.21 to 39.74)	0.99 (0.97 to 1.01)	0.3621
	10%<-<20%	6,966,672	2,956	39.17 (37.74 to 40.65)	0.99 (0.96 to 1.03)	0.8003
	20%<-<30%	2,916,986	1,146	40.41 (38.04 to 42.90)	1.03 (0.96 to 1.09)	0.4197
	30%<-<40%	1,606,604	677	39.55 (36.54 to 42.75)	1.00 (0.93 to 1.09)	0.9147
	40%<-<50%	1,359,226	578	35.73 (32.77 to 38.90)	0.91 (0.83 to 0.99)	0.0271
	50%+	2,982,835	1,547	37.34 (35.40 to 39.37)	0.95 (0.90 to 1.00)	0.0580
	<i>P for trend of AAIR</i>					<i>0.0950</i>
Female/CRC	0%	57,151,857	19,787	30.11 (29.69 to 30.54)	1.00	
	0<-<10%	26,439,189	9,687	31.37 (30.74 to 32.02)	1.04 (1.02 to 1.07)	0.0011
	10%<-<20%	6,962,410	2,524	30.03 (28.84 to 31.26)	1.00 (0.96 to 1.04)	0.9298
	20%<-<30%	2,789,004	915	30.92 (28.91 to 33.04)	1.03 (0.96 to 1.10)	0.4332
	30%<-<40%	1,516,378	534	30.56 (27.93 to 33.38)	1.01 (0.93 to 1.11)	0.7404
	40%<-<50%	1,262,773	488	29.42 (26.74 to 32.30)	0.98 (0.89 to 1.08)	0.6919
	50%+	2,855,014	1,394	33.28 (31.46 to 35.19)	1.11 (1.04 to 1.17)	0.0007
	<i>P for trend of AAIR</i>					<i>0.1712</i>

Male/Melanoma	0%	55,959,826	13,844	25.42 (24.99 to 25.85)	1.00	
	0<-<10%	26,023,709	9,926	37.54 (36.79 to 38.31)	1.48 (1.44 to 1.52)	<.0001
	10%<-<20%	6,966,672	2,775	36.90 (35.51 to 38.34)	1.45 (1.39 to 1.51)	<.0001
	20%<-<30%	2,916,986	918	33.31 (31.12 to 35.60)	1.31 (1.22 to 1.40)	<.0001
	30%<-<40%	1,606,604	518	29.40 (26.84 to 32.13)	1.16 (1.05 to 1.27)	0.0021
	40%<-<50%	1,359,226	564	33.46 (30.65 to 36.47)	1.32 (1.20 to 1.44)	<.0001
	50%+	2,982,835	1,599	38.67 (36.70 to 40.73)	1.52 (1.44 to 1.61)	<.0001
	<i>P for trend of AAIR</i>					<i>0.1166</i>
Female/Melanoma	0%	57,151,857	9,255	14.38 (14.09 to 14.69)	1.00	
	0<-<10%	26,439,189	6,444	21.34 (20.81 to 21.88)	1.48 (1.44 to 1.53)	<.0001
	10%<-<20%	6,962,410	1,876	22.93 (21.87 to 24.02)	1.59 (1.51 to 1.68)	<.0001
	20%<-<30%	2,789,004	622	21.30 (19.63 to 23.08)	1.48 (1.36 to 1.61)	<.0001
	30%<-<40%	1,516,378	350	20.04 (17.91 to 22.35)	1.39 (1.24 to 1.56)	<.0001
	40%<-<50%	1,262,773	377	23.19 (20.80 to 25.79)	1.61 (1.44 to 1.80)	<.0001
	50%+	2,855,014	1,008	25.74 (24.03 to 27.54)	1.79 (1.67 to 1.92)	<.0001
	<i>P for trend of AAIR</i>					<i>0.0368</i>

Supplementary Table 2. Age-adjusted incidence rates (AAIR) and incidence rate ratios (IRR) and 95% confidence interval by % rural in California (2015-2019), Hispanic.

Hispanic						
Cancer Site	%Rural	Population	Case	AAIR	IRR	P-value
Breast	0%	23,514,561	18,137	93.13 (91.75 to 94.53)	1.00	
	0<-<10%	8,996,590	7,234	103.44 (101.00 to 105.93)	1.11 (1.08 to 1.14)	<.0001
	10%<-<20%	2,685,723	2,065	97.54 (93.29 to 101.93)	1.05 (1.00 to 1.10)	0.0511
	20%<-<30%	1,381,140	965	92.27 (86.38 to 98.44)	0.99 (0.93 to 1.06)	0.8555
	30%<-<40%	587,064	384	90.08 (81.06 to 99.80)	0.97 (0.87 to 1.08)	0.5860
	40%<-<50%	407,947	247	79.55 (69.49 to 90.63)	0.85 (0.75 to 0.98)	0.0238
	50%+	580,101	456	95.25 (86.45 to 104.68)	1.02 (0.93 to 1.13)	0.6329
	<i>P for trend of AAIR</i>					
Prostate	0%	23,520,324	11,213	77.75 (76.22 to 79.30)	1.00	
	0<-<10%	9,060,793	4,570	88.45 (85.71 to 91.23)	1.14 (1.10 to 1.18)	<.0001
	10%<-<20%	2,775,489	1,459	84.84 (80.28 to 89.58)	1.09 (1.03 to 1.16)	0.0032
	20%<-<30%	1,480,288	687	79.06 (72.89 to 85.58)	1.02 (0.94 to 1.10)	0.6980
	30%<-<40%	645,612	277	76.27 (66.98 to 86.39)	0.98 (0.86 to 1.12)	0.8535
	40%<-<50%	484,937	204	72.79 (62.25 to 84.46)	0.94 (0.80 to 1.10)	0.4491
	50%+	651,107	356	76.35 (68.16 to 85.19)	0.98 (0.88 to 1.10)	0.8248
	<i>P for trend of AAIR</i>					
Male/Lung	0%	23,520,324	3,404	27.91 (26.92 to 28.91)	1.00	
	0<-<10%	9,060,793	1,223	28.21 (26.55 to 29.93)	1.01 (0.94 to 1.08)	0.7330
	10%<-<20%	2,775,489	442	30.36 (27.45 to 33.46)	1.09 (0.98 to 1.21)	0.1135
	20%<-<30%	1,480,288	216	29.50 (25.48 to 33.91)	1.06 (0.91 to 1.23)	0.4624
	30%<-<40%	645,612	115	33.92 (27.61 to 41.11)	1.22 (0.99 to 1.49)	0.0616
	40%<-<50%	484,937	55	22.52 (16.44 to 29.87)	0.81 (0.59 to 1.10)	0.1938
	50%+	651,107	103	24.99 (20.15 to 30.56)	0.90 (0.72 to 1.11)	0.3635
	<i>P for trend of AAIR</i>					
Female/Lung	0%	23,514,561	3,192	19.03 (18.36 to 19.72)	1.00	
	0<-<10%	8,996,590	1,340	22.93 (21.68 to 24.23)	1.20 (1.13 to 1.29)	<.0001
	10%<-<20%	2,685,723	392	22.12 (19.94 to 24.47)	1.16 (1.04 to 1.30)	0.0073
	20%<-<30%	1,381,140	172	19.77 (16.82 to 23.05)	1.04 (0.88 to 1.22)	0.6504
	30%<-<40%	587,064	78	22.41 (17.54 to 28.12)	1.18 (0.92 to 1.49)	0.1904
	40%<-<50%	407,947	55	21.96 (16.24 to 28.88)	1.15 (0.85 to 1.54)	0.3460
	50%+	580,101	117	27.16 (22.26 to 32.75)	1.43 (1.17 to 1.74)	0.0006
	<i>P for trend of AAIR</i>					
Male/CRC	0%	23,520,324	5,837	37.56 (36.53 to 38.62)	1.00	
	0<-<10%	9,060,793	2,187	39.18 (37.40 to 41.01)	1.04 (0.99 to 1.10)	0.1143
	10%<-<20%	2,775,489	768	40.50 (37.49 to 43.67)	1.08 (0.99 to 1.17)	0.0676
	20%<-<30%	1,480,288	345	36.71 (32.69 to 41.06)	0.98 (0.87 to 1.10)	0.7761
	30%<-<40%	645,612	141	36.64 (30.39 to 43.71)	0.98 (0.81 to 1.17)	0.8974
	40%<-<50%	484,937	102	32.21 (25.56 to 39.94)	0.86 (0.68 to 1.08)	0.2199
	50%+	651,107	156	35.02 (29.41 to 41.32)	0.93 (0.78 to 1.11)	0.4962
	<i>P for trend of AAIR</i>					
Female/CRC	0%	23,514,561	5,181	27.80 (27.03 to 28.58)	1.00	
	0<-<10%	8,996,590	1,954	29.64 (28.29 to 31.03)	1.07 (1.01 to 1.13)	0.0188
	10%<-<20%	2,685,723	544	26.14 (23.94 to 28.49)	0.94 (0.86 to 1.03)	0.2013
	20%<-<30%	1,381,140	249	24.91 (21.81 to 28.32)	0.90 (0.78 to 1.03)	0.1214
	30%<-<40%	587,064	119	30.33 (24.93 to 36.48)	1.09 (0.89 to 1.32)	0.3829
	40%<-<50%	407,947	70	24.21 (18.54 to 30.97)	0.87 (0.67 to 1.13)	0.3590
	50%+	580,101	131	29.21 (24.24 to 34.85)	1.05 (0.87 to 1.26)	0.5881
	<i>P for trend of AAIR</i>					
Male/Melanoma	0%	23,520,324	656	4.47 (4.11 to 4.85)	1.00	

	0<-<10%	9,060,793	306	5.58 (4.91 to 6.30)	1.25 (1.07 to 1.45)	0.0045
	10%-<20%	2,775,489	100	5.38 (4.31 to 6.61)	1.20 (0.95 to 1.52)	0.1264
	20%-<30%	1,480,288	36	3.75 (2.55 to 5.29)	0.84 (0.57 to 1.23)	0.4495
	30%-<40%	645,612	15	3.61 (1.89 to 6.15)	0.81 (0.42 to 1.47)	0.6593
	40%-<50%	484,937	15	3.92 (2.11 to 6.68)	0.88 (0.47 to 1.62)	0.9745
	50%+	651,107	27	5.60 (3.59 to 8.28)	1.25 (0.80 to 1.93)	0.3283
	<i>P for trend of AAIR</i>					<i>0.0908</i>
Female/Melanoma	0%	23,514,561	882	4.56 (4.25 to 4.88)	1.00	
	0<-<10%	8,996,590	439	6.20 (5.61 to 6.82)	1.36 (1.20 to 1.53)	<.0001
	10%-<20%	2,685,723	154	7.41 (6.26 to 8.71)	1.63 (1.35 to 1.95)	<.0001
	20%-<30%	1,381,140	56	5.10 (3.81 to 6.69)	1.12 (0.83 to 1.50)	0.4618
	30%-<40%	587,064	32	7.75 (5.19 to 11.07)	1.70 (1.13 to 2.51)	0.0115
	40%-<50%	407,947	15	4.67 (2.48 to 7.93)	1.02 (0.54 to 1.86)	1.0000
	50%+	580,101	41	7.96 (5.66 to 10.88)	1.75 (1.23 to 2.45)	0.0021
	<i>P for trend of AAIR</i>					<i>0.0908</i>

Supplementary Table 3. Age-adjusted incidence rates (AAIR) and incidence rate ratios (IRR) and 95% confidence interval by % rural in California 2015-2019, non-Hispanic Asian American/Pacific Islander.

Cancer Site	%Rural	API				P-value
		Population	Case	AAIR	IRR	
Breast	0%	11,272,794	14,570	106.58 (104.82 to 108.36)	1.00	
	0<-<10%	3,735,408	4,940	115.10 (111.87 to 118.41)	1.08 (1.04 to 1.12)	<.0001
	10%<-<20%	663,376	829	110.36 (102.86 to 118.27)	1.04 (0.96 to 1.11)	0.3387
	20%<-<30%	128,369	179	108.94 (93.23 to 126.59)	1.02 (0.87 to 1.19)	0.7779
	30%<-<40%	56,921	80	92.58 (72.83 to 116.11)	0.87 (0.68 to 1.10)	0.2821
	40%<-<50%	31,260	49	99.75 (72.88 to 133.60)	0.94 (0.68 to 1.27)	0.7960
	50%+	112,869	118	85.37 (70.19 to 103.04)	0.80 (0.66 to 0.97)	0.0226
	<i>P for trend of AAIR</i>					<i>0.9247</i>
Prostate	0%	10,222,964	5,785	49.36 (48.08 to 50.67)	1.00	
	0<-<10%	3,372,416	2,008	59.28 (56.64 to 62.02)	1.20 (1.14 to 1.27)	<.0001
	10%<-<20%	600,871	385	62.80 (56.49 to 69.62)	1.27 (1.14 to 1.42)	<.0001
	20%<-<30%	135,984	79	56.44 (44.22 to 71.02)	1.14 (0.89 to 1.45)	0.2919
	30%<-<40%	62,121	32	47.34 (31.57 to 68.16)	0.96 (0.64 to 1.42)	1.0000
	40%<-<50%	28,831	22	50.58 (30.81 to 78.85)	1.02 (0.62 to 1.65)	0.9576
	50%+	87,242	55	49.17 (36.40 to 65.03)	1.00 (0.74 to 1.33)	1.0000
	<i>P for trend of AAIR</i>					<i>0.1683</i>
Male/Lung	0%	10,222,964	4,883	43.71 (42.48 to 44.98)	1.00	
	0<-<10%	3,372,416	1,259	41.03 (38.73 to 43.43)	0.94 (0.88 to 1.00)	0.0542
	10%<-<20%	600,871	192	34.18 (29.38 to 39.53)	0.78 (0.67 to 0.91)	0.0010
	20%<-<30%	135,984	46	38.46 (27.84 to 51.67)	0.88 (0.64 to 1.19)	0.4754
	30%<-<40%	62,121	24	40.06 (24.93 to 60.62)	0.92 (0.57 to 1.43)	0.8780
	40%<-<50%	28,831	<15	—	—	—
	50%+	87,242	25	23.28 (14.75 to 34.98)	0.53 (0.34 to 0.81)	0.0020
<i>P for trend of AAIR</i>					0.0206	
Female/Lung	0%	11,272,794	4,069	27.90 (27.03 to 28.78)	1.00	
	0<-<10%	3,735,408	1,139	28.09 (26.45 to 29.81)	1.01 (0.94 to 1.08)	0.8435
	10%<-<20%	663,376	210	27.71 (24.03 to 31.82)	0.99 (0.86 to 1.15)	0.9764
	20%<-<30%	128,369	46	27.39 (19.91 to 36.85)	0.98 (0.71 to 1.33)	1.0000
	30%<-<40%	56,921	21	24.43 (14.94 to 37.81)	0.88 (0.53 to 1.37)	0.6926
	40%<-<50%	31,260	15	32.77 (17.78 to 55.36)	1.17 (0.64 to 2.03)	0.6336
	50%+	112,869	36	28.13 (19.40 to 39.55)	1.01 (0.69 to 1.43)	0.9889
	<i>P for trend of AAIR</i>					<i>0.9378</i>
Male/CRC	0%	10,222,964	4,183	37.11 (35.98 to 38.27)	1.00	
	0<-<10%	3,372,416	1,132	33.75 (31.76 to 35.83)	0.91 (0.85 to 0.97)	0.0058
	10%<-<20%	600,871	199	32.56 (28.08 to 37.54)	0.88 (0.75 to 1.02)	0.0857
	20%<-<30%	135,984	46	35.98 (26.02 to 48.44)	0.97 (0.70 to 1.32)	0.9610
	30%<-<40%	62,121	27	40.29 (25.89 to 59.74)	1.09 (0.70 to 1.67)	0.7396
	40%<-<50%	28,831	15	38.83 (20.99 to 65.79)	1.05 (0.57 to 1.85)	0.9345
	50%+	87,242	36	32.59 (22.47 to 45.78)	0.88 (0.60 to 1.25)	0.5725
	<i>P for trend of AAIR</i>					<i>0.0913</i>
Female/CRC	0%	11,272,794	3,788	26.54 (25.68 to 27.41)	1.00	
	0<-<10%	3,735,408	1,019	24.55 (23.04 to 26.14)	0.93 (0.86 to 0.99)	0.0334
	10%<-<20%	663,376	193	26.21 (22.59 to 30.25)	0.99 (0.85 to 1.15)	0.9249
	20%<-<30%	128,369	47	29.51 (21.59 to 39.44)	1.11 (0.81 to 1.50)	0.5125
	30%<-<40%	56,921	18	23.85 (13.93 to 37.96)	0.90 (0.52 to 1.46)	0.8162
	40%<-<50%	31,260	<15	—	—	—
	50%+	112,869	37	27.91 (19.42 to 39.00)	1.05 (0.73 to 1.48)	0.7829
	<i>P for trend of AAIR</i>					

	<i>P for trend of AAIR</i>					<i>0.3587</i>
Male/Melanoma	0%	10,222,964	123	1.12 (0.93 to 1.34)	1.00	
	0<-<10%	3,372,416	37	1.20 (0.84 to 1.67)	1.07 (0.71 to 1.59)	0.7855
	10%<-20%	600,871	<15	—	—	—
	20%<-30%	135,984	<15	—	—	—
	30%<-40%	62,121	<15	—	—	—
	40%<-50%	28,831	<15	—	—	—
	50%+	87,242	<15	—	—	—
	<i>P for trend of AAIR</i>					<i>0.0207</i>
Female/Melanoma a	0%	11,272,794	166	1.23 (1.05 to 1.44)	1.00	
	0<-<10%	3,735,408	50	1.23 (0.91 to 1.63)	1.00 (0.70 to 1.39)	1.0000
	10%<-20%	663,376	<15	—	—	—
	20%<-30%	128,369	<15	—	—	—
	30%<-40%	56,921	<15	—	—	—
	40%<-50%	31,260	<15	—	—	—
	50%+	112,869	<15	—	—	—
	<i>P for trend of AAIR</i>					<i>0.2125</i>

California Department of Public Health guidelines restrict reporting of cancer incidence rates if based on <15 cancer cases and/or a population of <10,000 to ensure confidentiality and stable statistical rates.

Supplementary Table 4. Age-adjusted incidence rates (AAIR) and incidence rate ratios (IRR) and 95% confidence interval by % rural in California (2015-2019), non-Hispanic Black.

Cancer Site	%Rural	NH Black				P-value
		Population	Case	AAIR	IRR	
Breast	0%	4,169,198	6,002	125.82 (122.57 to 129.13)	1.00	
	0<-<10%	1,508,302	2,030	129.75 (124.01 to 135.70)	1.03 (0.98 to 1.09)	0.2386
	10%<-<20%	223,916	304	127.58 (113.25 to 143.21)	1.01 (0.90 to 1.14)	0.8273
	20%<-<30%	52,239	71	120.62 (93.48 to 153.02)	0.96 (0.74 to 1.23)	0.8384
	30%<-<40%	33,601	36	88.69 (61.03 to 124.73)	0.70 (0.48 to 1.01)	0.0556
	40%<-<50%	33,180	55	124.18 (92.24 to 163.54)	0.99 (0.73 to 1.31)	1.0000
	50%+	48,637	51	82.26 (60.26 to 109.80)	0.65 (0.48 to 0.88)	0.0036
	<i>P for trend of AAIR</i>					<i>0.1269</i>
Prostate	0%	3,881,722	5,907	139.39 (135.73 to 143.13)	1.00	
	0<-<10%	1,570,358	2,474	167.48 (160.53 to 174.65)	1.20 (1.14 to 1.26)	<.0001
	10%<-<20%	288,942	380	146.86 (131.55 to 163.43)	1.05 (0.94 to 1.18)	0.3547
	20%<-<30%	74,767	109	145.06 (116.65 to 178.25)	1.04 (0.84 to 1.31)	0.6781
	30%<-<40%	36,182	61	111.19 (82.45 to 146.79)	0.80 (0.59 to 1.08)	0.1499
	40%<-<50%	30,464	73	128.70 (97.72 to 166.37)	0.92 (0.70 to 1.23)	0.7882
	50%+	81,334	75	93.57 (71.99 to 119.48)	0.67 (0.52 to 0.87)	0.0014
	<i>P for trend of AAIR</i>					<i>0.5494</i>
Male/Lung	0%	3,881,722	2,233	59.64 (57.10 to 62.27)	1.00	
	0<-<10%	1,570,358	724	58.41 (53.95 to 63.13)	0.98 (0.89 to 1.07)	0.6608
	10%<-<20%	288,942	112	53.15 (43.26 to 64.49)	0.89 (0.72 to 1.09)	0.3156
	20%<-<30%	74,767	45	79.76 (55.71 to 109.80)	1.34 (0.93 to 1.91)	0.0938
	30%<-<40%	36,182	33	70.10 (45.58 to 102.48)	1.18 (0.76 to 1.78)	0.4656
	40%<-<50%	30,464	29	51.51 (33.65 to 75.86)	0.86 (0.56 to 1.29)	0.5943
	50%+	81,334	31	46.46 (30.53 to 67.28)	0.78 (0.51 to 1.17)	0.2637
	<i>P for trend of AAIR</i>					<i>0.1865</i>
Female/Lung	0%	4,169,198	2,261	44.52 (42.68 to 46.43)	1.00	
	0<-<10%	1,508,302	698	45.81 (42.37 to 49.45)	1.03 (0.94 to 1.12)	0.5111
	10%<-<20%	223,916	91	37.53 (30.02 to 46.35)	0.84 (0.67 to 1.05)	0.1421
	20%<-<30%	52,239	21	39.84 (24.36 to 61.03)	0.89 (0.55 to 1.40)	0.7731
	30%<-<40%	33,601	<15	—	—	—
	40%<-<50%	33,180	20	46.97 (27.90 to 73.89)	1.05 (0.63 to 1.70)	0.8688
	50%+	48,637	19	32.90 (19.42 to 52.22)	0.74 (0.44 to 1.21)	0.3044
	<i>P for trend of AAIR</i>					<i>0.1216</i>
Male/CRC	0%	3,881,722	1,705	44.68 (42.50 to 46.93)	1.00	
	0<-<10%	1,570,358	586	43.21 (39.56 to 47.09)	0.97 (0.87 to 1.07)	0.5231
	10%<-<20%	288,942	114	46.15 (37.57 to 56.04)	1.03 (0.84 to 1.27)	0.7569
	20%<-<30%	74,767	24	36.61 (21.74 to 57.17)	0.82 (0.49 to 1.38)	0.7289
	30%<-<40%	36,182	<15	—	—	—
	40%<-<50%	30,464	21	32.51 (19.56 to 51.66)	0.73 (0.44 to 1.17)	0.2365
	50%+	81,334	15	16.51 (8.91 to 28.28)	0.37 (0.20 to 0.68)	0.0001
	<i>P for trend of AAIR</i>					0.0077
Female/CRC	0%	4,169,198	1,697	34.77 (33.10 to 36.50)	1.00	
	0<-<10%	1,508,302	580	37.70 (34.61 to 40.99)	1.08 (0.98 to 1.20)	0.1063
	10%<-<20%	223,916	77	34.06 (26.73 to 42.75)	0.98 (0.76 to 1.24)	0.9629
	20%<-<30%	52,239	<15	—	—	—
	30%<-<40%	33,601	<15	—	—	—
	40%<-<50%	33,180	<15	—	—	—
	50%+	48,637	<15	—	—	—
	<i>P for trend of AAIR</i>					<i>0.1774</i>
Male/Melanoma	0%	3,881,722	45	1.29 (0.94 to 1.74)	1.00	

	0<-<10%	1,570,358	19	1.62 (0.93 to 2.57)	1.25 (0.66 to 2.32)	0.5387
	10%-<20%	288,942	<15	—	—	—
	20%-<30%	74,767	<15	—	—	—
	30%-<40%	36,182	<15	—	—	—
	40%-<50%	30,464	<15	—	—	—
	50%+	81,334	<15	—	—	—
	<i>P for trend of AAIR</i>					<i>0.0844</i>
Female/Melanom a	0%	4,169,198	32	0.72 (0.49 to 1.02)	1.00	
	0<-<10%	1,508,302	20	1.38 (0.83 to 2.16)	1.93 (1.01 to 3.58)	0.0486
	10%-<20%	223,916	<15	—	—	—
	20%-<30%	52,239	<15	—	—	—
	30%-<40%	33,601	<15	—	—	—
	40%-<50%	33,180	<15	—	—	—
	50%+	48,637	<15	—	—	—
	<i>P for trend of AAIR</i>					<i>0.6800</i>

California Department of Public Health guidelines restrict reporting of cancer incidence rates if based on <15 cancer cases and/or a population of <10,000 to ensure confidentiality and stable statistical rates.

Supplementary Table 5. Age-adjusted incidence rates (AAIR) and incidence rate ratios (IRR) and 95% confidence interval by % rural in California (2015-2019), non-Hispanic White.

NH White						
Cancer Site	%Rural	Population	Case	AAIR	IRR	P-value
Breast	0%	17,996,418	36,673	143.39 (141.83 to 144.97)	1.00	
	0<-<10%	12,062,320	24,784	142.09 (140.21 to 143.99)	0.99 (0.97 to 1.01)	0.3188
	10%<-<20%	3,324,591	6,961	136.42 (132.96 to 139.97)	0.95 (0.93 to 0.98)	0.0005
	20%<-<30%	1,164,398	2,263	131.75 (126.01 to 137.72)	0.92 (0.88 to 0.96)	0.0003
	30%<-<40%	792,855	1,391	117.45 (110.69 to 124.54)	0.82 (0.77 to 0.87)	<.0001
	40%<-<50%	748,211	1,501	123.10 (116.16 to 130.38)	0.86 (0.81 to 0.91)	<.0001
	50%+	2,027,437	3,956	117.03 (112.98 to 121.21)	0.82 (0.79 to 0.85)	<.0001
	<i>P for trend of AAIR</i>					
Prostate	0%	18,146,692	25,732	96.33 (95.13 to 97.53)	1.00	
	0<-<10%	11,886,780	18,692	101.91 (100.42 to 103.41)	1.06 (1.04 to 1.08)	<.0001
	10%<-<20%	3,253,535	5,393	98.73 (96.05 to 101.48)	1.02 (0.99 to 1.06)	0.1147
	20%<-<30%	1,175,071	1,838	96.58 (92.09 to 101.27)	1.00 (0.95 to 1.05)	0.9246
	30%<-<40%	809,473	1,273	92.11 (86.96 to 97.53)	0.96 (0.90 to 1.01)	0.1531
	40%<-<50%	754,404	1,346	93.14 (88.07 to 98.51)	0.97 (0.91 to 1.02)	0.2848
	50%+	2,065,010	3,556	89.06 (86.04 to 92.19)	0.92 (0.89 to 0.96)	<.0001
	<i>P for trend of AAIR</i>					
Male/Lung	0%	18,146,692	12,129	47.97 (47.10 to 48.85)	1.00	
	0<-<10%	11,886,780	8,043	46.81 (45.77 to 47.87)	0.98 (0.95 to 1.00)	0.0968
	10%<-<20%	3,253,535	2,482	48.62 (46.68 to 50.62)	1.01 (0.97 to 1.06)	0.5569
	20%<-<30%	1,175,071	910	52.28 (48.84 to 55.93)	1.09 (1.02 to 1.17)	0.0171
	30%<-<40%	809,473	697	54.03 (49.95 to 58.40)	1.13 (1.04 to 1.22)	0.0038
	40%<-<50%	754,404	597	45.45 (41.74 to 49.47)	0.95 (0.87 to 1.04)	0.2634
	50%+	2,065,010	1,919	52.05 (49.65 to 54.57)	1.09 (1.03 to 1.14)	0.0015
	<i>P for trend of AAIR</i>					
Female/Lung	0%	17,996,418	12,788	42.22 (41.47 to 42.98)	1.00	
	0<-<10%	12,062,320	8,825	43.64 (42.71 to 44.58)	1.03 (1.01 to 1.06)	0.0188
	10%<-<20%	3,324,591	2,578	43.50 (41.79 to 45.28)	1.03 (0.99 to 1.08)	0.1815
	20%<-<30%	1,164,398	835	44.12 (41.08 to 47.35)	1.04 (0.97 to 1.13)	0.2440
	30%<-<40%	792,855	723	51.21 (47.43 to 55.27)	1.21 (1.12 to 1.31)	<.0001
	40%<-<50%	748,211	627	44.17 (40.64 to 48.00)	1.05 (0.96 to 1.14)	0.2946
	50%+	2,027,437	1,867	47.82 (45.58 to 50.16)	1.13 (1.08 to 1.19)	<.0001
	<i>P for trend of AAIR</i>					
Male/CRC	0%	18,146,692	9,680	40.01 (39.19 to 40.84)	1.00	
	0<-<10%	11,886,780	6,295	38.92 (37.93 to 39.93)	0.97 (0.94 to 1.01)	0.1008
	10%<-<20%	3,253,535	1,795	38.12 (36.29 to 40.03)	0.95 (0.90 to 1.01)	0.0817
	20%<-<30%	1,175,071	701	42.76 (39.50 to 46.24)	1.07 (0.98 to 1.16)	0.1106
	30%<-<40%	809,473	479	40.43 (36.68 to 44.50)	1.01 (0.91 to 1.12)	0.8273
	40%<-<50%	754,404	431	37.50 (33.76 to 41.58)	0.94 (0.84 to 1.04)	0.2577
	50%+	2,065,010	1,282	37.89 (35.67 to 40.24)	0.95 (0.89 to 1.01)	0.1027
	<i>P for trend of AAIR</i>					
Female/CRC	0%	17,996,418	8,728	31.47 (30.76 to 32.18)	1.00	
	0<-<10%	12,062,320	5,907	31.87 (31.01 to 32.75)	1.01 (0.98 to 1.05)	0.4824
	10%<-<20%	3,324,591	1,643	30.70 (29.12 to 32.35)	0.98 (0.92 to 1.03)	0.4304
	20%<-<30%	1,164,398	581	33.78 (30.92 to 36.85)	1.07 (0.98 to 1.18)	0.1257
	30%<-<40%	792,855	367	29.31 (26.12 to 32.83)	0.93 (0.83 to 1.05)	0.2728
	40%<-<50%	748,211	381	30.26 (26.98 to 33.89)	0.96 (0.86 to 1.08)	0.5787
	50%+	2,027,437	1,132	32.43 (30.40 to 34.58)	1.03 (0.96 to 1.10)	0.3980
	<i>P for trend of AAIR</i>					
Male/Melanoma	0%	18,146,692	11,838	48.46 (47.56 to 49.36)	1.00	

	0<-<10%	11,886,780	8,724	53.66 (52.50 to 54.84)	1.11 (1.08 to 1.14)	<.0001
	10%-<20%	3,253,535	2,423	50.62 (48.52 to 52.79)	1.04 (1.00 to 1.09)	0.0628
	20%-<30%	1,175,071	794	48.49 (45.02 to 52.17)	1.00 (0.93 to 1.08)	0.9891
	30%-<40%	809,473	439	36.01 (32.52 to 39.81)	0.74 (0.67 to 0.82)	<.0001
	40%-<50%	754,404	493	39.31 (35.66 to 43.28)	0.81 (0.73 to 0.90)	<.0001
	50%+	2,065,010	1,373	40.75 (38.44 to 43.18)	0.84 (0.79 to 0.89)	<.0001
	<i>P for trend of AAIR</i>					<i>0.1181</i>
Female/Melanoma	0%	17,996,418	7,274	29.56 (28.84 to 30.30)	1.00	
	0<-<10%	12,062,320	5,227	31.71 (30.79 to 32.65)	1.07 (1.03 to 1.11)	0.0004
	10%-<20%	3,324,591	1,501	31.48 (29.75 to 33.30)	1.06 (1.00 to 1.13)	0.0480
	20%-<30%	1,164,398	504	32.43 (29.45 to 35.64)	1.10 (0.99 to 1.21)	0.0674
	30%-<40%	792,855	259	22.62 (19.64 to 25.95)	0.77 (0.66 to 0.88)	0.0001
	40%-<50%	748,211	319	26.86 (23.66 to 30.41)	0.91 (0.80 to 1.03)	0.1649
	50%+	2,027,437	791	25.82 (23.79 to 28.00)	0.87 (0.80 to 0.95)	0.0016
	<i>P for trend of AAIR</i>					<i>0.2305</i>