

2021 Lung Cancer Screening Registry Report from the American College of Radiology

We are pleased to release the 2021 annual State Aggregate report for Lung Cancer Screening Registry. The PDF report contains the following:

1. Measures definition

2. Pre-exam measures aggregated by states

3. During-exam measures aggregated by states

4. Post-exam measures aggregated by states

Currently the Post-exam (outcome) measures provided within this report are limited to the Abnormal Interpretation Rate. Other measures such as Cancer Detection Rate or Positive Predictive Value are not available at the state aggregate level at this time. Some sites may have limited ability to fully capture outcome (tissue diagnoses) data and state performance may be misconstrued.

Aggregate measure data only reported for states where there are 5 or more sites. Less than 5 are indicated as NR (Not reported).

Measure Definitions

Appropriateness of screening by USPSTF criteria

Percent of screening population who are adults aged 55 to 80 years, have a 30 pack-year smoking history, and currently smoke or have quit within the past 15 years.

Smoking cessation offered

Percent of patients who are offered smoking cessation guidance.

Smoking cessation offered among current smokers

Percent of current smokers who are offered smoking cessation guidance.

Radiation exposure Mean CTDIvol - overall, and by BMI category

Mean Volumetrics CT Dose Index (CTDIvol) across all screening exams performed, across all screening exams performed on underweight patients (BMI<18.5), across all screening exams performed on normal weight patients (BMI of 18.5-24.9), across all screening exams performed on overweight patients (BMI of 25-29.9), and across all screening exams performed on obese patients (BMI of 30 or more).

Radiation exposure (DLP) - overall, and by BMI category

Mean Dose Length Product (DLP) across all screening exams performed, across all screening exams performed on underweight patients (BMI<18.5), across all screening exams performed on normal weight patients (BMI of 18.5-24.9), across all screening exams performed on overweight patients (BMI of 25-29.9), and across all screening exams performed on obese patients (BMI of 30 or more).

Abnormal Interpretation Rate, all exams

Percent of screening exams that have a Lung-RADS assessment of 3, 4a, 4b, or 4x (and lead to additional imaging or biopsy).

Abnormal Interpretation Rate, at baseline exam

Percent of baseline screening exams that have a Lung-RADS assessment of 3, 4a, 4b, or 4x (and lead to additional imaging or biopsy).

Abnormal Interpretation Rate, at annual exam

Percent of annual screening exams that have a Lung-RADS assessment of 3, 4a, 4b, or 4x (and lead to additional imaging or biopsy).

Lung Cancer Screening Statistics, Pre-Exam Measures – Screening Exams performed in 2021

				Appropriateness of screening by USPSTF criteria		Smoking cessation offered		Smoking cessation offered among current smokers	
Aggregation Level	Year	# Facilities	# Screening Exams	Rate	Num/Den	Rate	Num/Den	Rate	Num/Den
Alabama	2021	63	14308	89.21%	(12764/14308)	75.61%	(10818/14308)	79.54%	(7260/9128)
Alaska	2021	17	1668	90.95%	(1517/1668)	93.17%	(1554/1668)	97.96%	(914/933)
Arizona	2021	45	7223	85.05%	(6143/7223)	82.56%	(5963/7223)	85.91%	(3584/4172)
Arkansas	2021	36	6703	93.35%	(6257/6703)	75.41%	(5055/6703)	84%	(3828/4557)
California	2021	133	17011	68.21%	(11604/17011)	78.26%	(13312/17011)	84.28%	(7216/8562)
Colorado	2021	65	10541	80.86%	(8523/10541)	69.93%	(7371/10541)	76.35%	(4143/5426)
Connecticut	2021	43	11680	74.96%	(8755/11680)	54.92%	(6415/11680)	60.11%	(3954/6578)
Delaware	2021	18	4255	92.34%	(3929/4255)	97.27%	(4139/4255)	97.53%	(2286/2344)
District of Columbia	2021	5	705	86.1%	(607/705)	82.55%	(582/705)	85.55%	(367/429)
Florida	2021	229	39557	83.88%	(33179/39557)	62.82%	(24850/39557)	66.56%	(14589/21919)
Georgia	2021	134	22866	87.83%	(20083/22866)	73.87%	(16890/22866)	85.94%	(11682/13593)
Hawaii	2021	9	1415	95.12%	(1346/1415)	50.04%	(708/1415)	64.29%	(594/924)
Idaho	2021	22	4684	95.39%	(4468/4684)	83.77%	(3924/4684)	94.9%	(2326/2451)
Illinois	2021	140	35961	90.71%	(32620/35961)	80.91%	(29095/35961)	86.62%	(18123/20923)
Indiana	2021	127	28709	76.94%	(22088/28709)	59.92%	(17202/28709)	68.99%	(11364/16472)
Iowa	2021	79	13401	90.48%	(12125/13401)	76.11%	(10199/13401)	81.98%	(6816/8314)
Kansas	2021	52	10441	91.33%	(9536/10441)	73.81%	(7706/10441)	79.74%	(4829/6056)
Kentucky	2021	108	35937	86.79%	(31190/35937)	73.14%	(26284/35937)	75.01%	(16558/22075)
Louisiana	2021	44	7363	90.98%	(6699/7363)	94.91%	(6988/7363)	97.12%	(4795/4937)
Maine	2021	26	9294	88.2%	(8197/9294)	77.03%	(7159/9294)	79.52%	(4526/5692)
Maryland	2021	60	14952	93.16%	(13930/14952)	76.6%	(11453/14952)	83.49%	(7745/9277)
Massachusetts	2021	64	43416	93.83%	(40736/43416)	73.9%	(32086/43416)	76.35%	(18799/24622)
Michigan	2021	117	44656	91.03%	(40649/44656)	74.84%	(33420/44656)	77.61%	(21623/27861)
Minnesota	2021	100	20691	87.2%	(18042/20691)	55.22%	(11426/20691)	69.29%	(7995/11538)
Mississippi	2021	41	8052	89.89%	(7238/8052)	71.4%	(5749/8052)	81.21%	(3959/4875)

Lung Cancer Screening Statistics, Pre-Exam Measures – Screening Exams performed in 2021

				Appropriateness of screening by USPSTF criteria		Smoking cessation offered		Smoking cessation offered among current smokers	
Aggregation Level	Year	# Facilities	# Screening Exams	Rate	Num/Den	Rate	Num/Den	Rate	Num/Den
Missouri	2021	73	26416	91.39%	(24141/26416)	66.45%	(17553/26416)	73.21%	(11772/16079)
Montana	2021	17	2764	90.92%	(2513/2764)	88.21%	(2438/2764)	91.33%	(1359/1488)
Nebraska	2021	28	4871	86.9%	(4233/4871)	83.33%	(4059/4871)	89.89%	(2277/2533)
Nevada	2021	20	2419	81.03%	(1960/2419)	95.99%	(2322/2419)	98.08%	(1430/1458)
New Hampshire	2021	26	7744	88.7%	(6869/7744)	50.92%	(3943/7744)	57.5%	(2614/4546)
New Jersey	2021	110	14019	79.6%	(11159/14019)	66.55%	(9330/14019)	76.94%	(5808/7549)
New Mexico	2021	10	2155	82.69%	(1782/2155)	92.11%	(1985/2155)	95.97%	(1262/1315)
New York	2021	236	51358	81.93%	(42078/51358)	71.52%	(36731/51358)	79.82%	(23738/29738)
North Carolina	2021	128	45885	85.45%	(39211/45885)	82.53%	(37871/45885)	88.14%	(24391/27672)
North Dakota	2021	13	3096	92.7%	(2870/3096)	65.47%	(2027/3096)	84.95%	(1406/1655)
Ohio	2021	177	51583	85.38%	(44042/51583)	79.61%	(41065/51583)	86.42%	(26626/30811)
Oklahoma	2021	30	4393	82.61%	(3629/4393)	48.78%	(2143/4393)	54.33%	(1354/2492)
Oregon	2021	51	12942	90.34%	(11692/12942)	81.24%	(10514/12942)	83.65%	(5785/6916)
Pennsylvania	2021	182	58902	88.27%	(51993/58902)	70.12%	(41304/58902)	78.97%	(27841/35255)
Rhode Island	2021	20	6791	83.92%	(5699/6791)	75.78%	(5146/6791)	80.54%	(3215/3992)
South Carolina	2021	54	19006	86.78%	(16493/19006)	72.16%	(13715/19006)	76.02%	(8568/11271)
South Dakota	2021	29	3669	96.38%	(3536/3669)	73.62%	(2701/3669)	87.61%	(1916/2187)
Tennessee	2021	91	23826	86.71%	(20660/23826)	66.39%	(15818/23826)	75.74%	(11280/14894)
Texas	2021	166	22992	79.16%	(18200/22992)	72.92%	(16766/22992)	79.83%	(10750/13466)
Utah	2021	7	1552	73.13%	(1135/1552)	41.49%	(644/1552)	62.11%	(500/805)
Vermont	2021	9	3663	97.22%	(3561/3663)	78.95%	(2892/3663)	97.84%	(2132/2179)
Virginia	2021	95	28561	88.82%	(25368/28561)	87.41%	(24964/28561)	89.92%	(15111/16805)
Washington	2021	82	19563	87.91%	(17198/19563)	81.79%	(16000/19563)	90.7%	(9453/10422)
West Virginia	2021	24	5389	92.17%	(4967/5389)	75.9%	(4090/5389)	80.96%	(2921/3608)
Wisconsin	2021	130	27388	88.9%	(24347/27388)	73.49%	(20128/27388)	80.53%	(11583/14384)

Lung Cancer Screening Statistics, Pre-Exam Measures – Screening Exams performed in 2021

				Appropriateness of screening by USPSTF criteria		Smoking cessation offered		Smoking cessation offered among current smokers	
Aggregation Level	Year	# Facilities	# Screening Exams	Rate	Num/Den	Rate	Num/Den	Rate	Num/Den
Wyoming	2021	6	518	75.29%	(390/518)	51.16%	(265/518)	73.76%	(208/282)
LCSR	2021	3593	866954	86.73%	(752666/867822)	73.43%	(637265/867822)	79.85%	(405603/507935)

Lung Cancer Screening Statistics, During Exam Measures – Screening Exams performed in 2021

			CTDIvol - Mean (mGy)					DLP - Mean (mGy-cm)				
Aggregation Level	# Facilities	# Screening Exams	Overall	underweight (BMI<18.5)	normal (BMI 18.5-24.9)	overweight (BMI 25.0-29.9)	obese (BMI 30 or greater)	Overall	underweight (BMI<18.5)	normal (BMI 18.5-24.9)	overweight (BMI 25.0-29.9)	obese (BMI 30 or greater)
Alabama	63	14308	3.01	2.02	2.56	2.78	3.66	97.51	75.98	82.16	95.2	112.64
Alaska	17	1668	2.72	2.03	2.42	3	2.76	83.86	73.42	73.71	77.48	95.75
Arizona	45	7223	2.91	1.97	3.18	2.67	3.63	86.06	62.79	74.83	77.43	103.7
Arkansas	36	6703	3.26	2.3	2.75	3.04	3.88	110.9	87.59	92.97	115.09	123.98
California	133	17011	3.35	2.09	2.7	3.36	4.01	111.53	78.93	91.02	107.03	138.72
Colorado	65	10541	3.61	1.87	3.1	3.2	4.77	105.57	71.13	83.9	102.24	134.12
Connecticut	43	11680	2.87	1.84	2.13	2.75	3.58	84.74	60.73	64.64	79.48	104.75
Delaware	18	4255	2.72	2.06	2.17	2.67	3.12	96.7	85.08	85.53	92.61	107.22
District of Columbia	5	705	5.58	1.41	4.71	3.39	8.62	74.6	50.71	54.1	65.34	99.01
Florida	229	39557	2.87	1.88	2.46	2.77	3.47	93.72	75.96	79.77	91.75	109.99
Georgia	134	22866	4.1	3.52	3.56	4.16	4.5	93.43	74.02	78.96	90.03	107.44
Hawaii	9	1415	4.21	1.62	3.13	3.72	6.57	89.85	63.7	73.53	84.75	123.87
Idaho	22	4684	2.79	1.53	1.73	2.51	3.78	101.03	60.17	67.26	88.18	136.48
Illinois	140	35961	3.34	3.84	2.59	3.04	4	97.54	75.53	81.36	90.57	112.6
Indiana	127	28709	3.53	2.78	3.09	3.27	4.05	98.25	71.65	76.1	90.93	116.28
Iowa	79	13401	3.06	2.22	2.22	2.72	3.73	88.56	56.23	68.46	78.59	106.93
Kansas	52	10441	2.68	1.44	1.99	2.36	3.29	87.89	54.02	63.52	80.63	103.63
Kentucky	108	35937	4.04	2.06	3.43	3.81	4.61	86.4	62.04	66.45	78.89	99.79
Louisiana	44	7363	2.93	1.75	2.52	2.47	3.63	93.57	64.05	84.97	84.97	106.46
Maine	26	9294	3.08	2.81	2.8	3.17	3.21	90.11	81.86	76.69	83.14	104.68
Maryland	60	14952	3.04	2.94	2.35	2.79	3.76	99.11	77.24	81.69	95.41	117.08
Massachusetts	64	43416	4.95	3.03	3.81	4.66	6.16	94.4	63.77	72.64	88.51	114.95
Michigan	117	44656	3.23	2.4	2.48	3.04	3.92	100.3	71.83	79.04	96.04	118.8
Minnesota	100	20691	2.82	2.08	1.98	2.76	3.34	87.49	60.72	66.49	81.38	104.45
Mississippi	41	8052	5.5	6.09	5.67	5.25	5.8	87.15	69.98	72.81	79.89	99.76
Missouri	73	26416	2.67	1.89	2.19	2.5	3.15	87.7	63.32	69.61	83.11	104.4

Lung Cancer Screening Statistics, During Exam Measures – Screening Exams performed in 2021

			CTDIvol - Mean (mGy)					DLP - Mean (mGy-cm)				
Aggregation Level	# Facilities	# Screening Exams	Overall	underweight (BMI<18.5)	normal (BMI 18.5-24.9)	overweight (BMI 25.0-29.9)	obese (BMI 30 or greater)	Overall	underweight (BMI<18.5)	normal (BMI 18.5-24.9)	overweight (BMI 25.0-29.9)	obese (BMI 30 or greater)
Montana	17	2764	2.59	2.87	1.99	2.3	3.17	86.57	57.17	66.17	80.96	103.69
Nebraska	28	4871	2.72	1.94	1.96	2.65	3.21	96.95	69.3	71.3	94.49	116.41
Nevada	20	2419	2.14	2.44	1.68	1.92	2.68	74.48	68.82	64.08	71.72	85.3
New Hampshire	26	7744	3.58	2.03	3.12	3.29	4.19	97.09	62.49	76.5	92.12	115.51
New Jersey	110	14019	3.18	1.91	2.5	3.21	3.68	90.32	67.19	75.59	87.1	103.11
New Mexico	10	2155	2.57	1.87	1.98	2.41	3.42	88.83	70.38	69.73	85.28	116.56
New York	236	51358	2.86	2.45	2.17	2.61	3.46	93.96	76.22	73.97	87.64	111.11
North Carolina	128	45885	3.95	3.15	2.84	3.3	5.02	97.71	75.94	78.94	92.73	114.8
North Dakota	13	3096	2.74	1.22	1.83	2.56	3.31	91.07	45.55	58.74	77.24	115.48
Ohio	177	51583	3.39	2.55	2.97	3.19	3.87	92.75	74.08	80.98	90.47	103.09
Oklahoma	30	4393	3.66	2.65	3.46	3.65	3.99	104.78	78.34	89.13	106.58	118.44
Oregon	51	12942	3.02	2.16	2.1	2.74	3.99	101.69	67.3	73.44	93.69	131.09
Pennsylvania	182	58902	3.4	2.13	2.66	3.34	3.87	92.93	70.58	76.44	88.34	106.78
Rhode Island	20	6791	2.78	1.82	2.66	2.46	2.68	82.04	65.83	72.19	77.51	87.43
South Carolina	54	19006	2.85	2.04	2.23	2.66	3.35	92	68.72	72.54	82.54	102.47
South Dakota	29	3669	3.27	1.69	2.12	2.83	4.22	104.69	62.1	72.09	85	136.35
Tennessee	91	23826	3.02	2.68	2.49	2.91	3.54	101	78.02	83.67	97.98	117.86
Texas	166	22992	2.82	2.12	2.29	2.68	3.31	99.54	74.76	84.38	93.71	116.67
Utah	7	1552	3.76	1.79	3	3.82	4.58	118.3	65.59	101.07	116.01	141.35
Vermont	9	3663	3.14	1.9	2.33	2.93	3.89	118.34	76.03	91.77	110.57	143.88
Virginia	95	28561	2.53	1.75	2.27	2.56	3	81.22	61.98	72.26	80.01	98.14
Washington	82	19563	3	2.71	2.47	2.82	3.48	78.52	53.78	61.24	71.89	95.7
West Virginia	24	5389	19.46	5.59	12	17.82	27.38	99.96	66.94	75.51	91.66	123.26
Wisconsin	130	27388	3.11	3.17	2.26	2.65	3.89	102.41	71.38	74.46	90.41	130.62
Wyoming	6	518	3.49	1.39	3.25	3.16	4.28	80.67	51.14	56.38	73.75	108.56
LCSR	3593	866954	3.41	2.54	2.73	3.19	4.12	94.23	71.04	76.25	88.99	111.28

Lung Cancer Screening Statistics, Post-Exam Measures – Screening Exams performed in 2021

			Abnormal Interpretation Rate, baseline, annual, not indicated (%)		Abnormal Interpretation Rate, at baseline exam (%)		Abnormal Interpretation Rate, at annual exam (%)	
Aggregation Level	# Facilities	# Screening Exams	Rate	Num/Den	Rate	Num/Den	Rate	Num/Den
Alabama	63	14308	15.73%	(2250/14308)	17.9%	(1270/7095)	13.38%	(944/7056)
Alaska	17	1668	14.39%	(240/1668)	17.22%	(146/848)	11.58%	(94/812)
Arizona	45	7223	15.98%	(1154/7223)	17.37%	(843/4853)	12.97%	(283/2182)
Arkansas	36	6703	15.01%	(1006/6703)	18.06%	(769/4258)	9.64%	(230/2385)
California	133	17011	13.8%	(2347/17011)	15.3%	(1201/7848)	12.31%	(1074/8722)
Colorado	65	10541	14.03%	(1479/10541)	16.49%	(988/5991)	10.53%	(436/4140)
Connecticut	43	11680	14.2%	(1658/11680)	17.25%	(841/4874)	11.91%	(806/6765)
Delaware	18	4255	11.84%	(504/4255)	14.96%	(304/2032)	8.92%	(198/2219)
District of Columbia	5	705	11.21%	(79/705)	13.32%	(59/443)	7.69%	(20/260)
Florida	229	39557	14.59%	(5771/39557)	17.72%	(3711/20945)	11.04%	(1940/17568)
Georgia	134	22866	12.83%	(2933/22866)	15.12%	(1817/12018)	10.22%	(1092/10681)
Hawaii	9	1415	12.23%	(173/1415)	13.94%	(137/983)	8.37%	(36/430)
Idaho	22	4684	13.22%	(619/4684)	15.93%	(337/2115)	10.96%	(281/2564)
Illinois	140	35961	14.14%	(5084/35961)	18.09%	(2863/15829)	10.74%	(2103/19576)
Indiana	127	28709	14.07%	(4039/28709)	15.95%	(2724/17078)	11.13%	(1245/11190)
Iowa	79	13401	13.66%	(1831/13401)	17.91%	(921/5142)	10.03%	(652/6503)
Kansas	52	10441	14.85%	(1550/10441)	18.27%	(968/5298)	11.25%	(573/5093)
Kentucky	108	35937	13.95%	(5013/35937)	17.54%	(3255/18553)	10.02%	(1732/17291)
Louisiana	44	7363	13.16%	(969/7363)	14.78%	(552/3736)	11.33%	(407/3591)
Maine	26	9294	13.78%	(1281/9294)	15.18%	(696/4585)	12.23%	(562/4597)
Maryland	60	14952	15.43%	(2307/14952)	18.64%	(1590/8528)	11.13%	(712/6397)
Massachusetts	64	43416	12.07%	(5239/43416)	14.62%	(1771/12112)	10.83%	(3198/29534)
Michigan	117	44656	13.2%	(5894/44656)	16.13%	(3855/23896)	9.89%	(1966/19871)
Minnesota	100	20691	10.88%	(2251/20691)	14.18%	(1333/9398)	8.18%	(884/10801)

Lung Cancer Screening Statistics, Post-Exam Measures – Screening Exams performed in 2021

			Abnormal Interpretation Rate, baseline, annual, not indicated (%)		Abnormal Interpretation Rate, at baseline exam (%)		Abnormal Interpretation Rate, at annual exam (%)	
Aggregation Level	# Facilities	# Screening Exams	Rate	Num/Den	Rate	Num/Den	Rate	Num/Den
Mississippi	41	8052	14.24%	(1147/8052)	17.53%	(618/3525)	11.62%	(513/4413)
Missouri	73	26416	14.68%	(3879/26416)	17.62%	(2224/12619)	11.58%	(1418/12244)
Montana	17	2764	16.28%	(450/2764)	20.81%	(288/1384)	11.66%	(160/1372)
Nebraska	28	4871	12.65%	(616/4871)	16.86%	(341/2023)	9.65%	(273/2830)
Nevada	20	2419	15.96%	(386/2419)	16.92%	(249/1472)	14.35%	(34/237)
New Hampshire	26	7744	12.6%	(976/7744)	16.08%	(453/2817)	10.65%	(523/4912)
New Jersey	110	14019	13.95%	(1956/14019)	16.67%	(1439/8631)	9.44%	(498/5274)
New Mexico	10	2155	15.08%	(325/2155)	21.78%	(115/528)	12.84%	(204/1589)
New York	236	51358	12.63%	(6489/51358)	14.99%	(4030/26891)	10.18%	(2358/23154)
North Carolina	128	45885	13.54%	(6214/45885)	16.23%	(3585/22088)	10.97%	(2550/23243)
North Dakota	13	3096	12.76%	(395/3096)	18.88%	(253/1340)	7.95%	(139/1748)
Ohio	177	51583	13.41%	(6917/51583)	16.72%	(3968/23725)	10.46%	(2827/27034)
Oklahoma	30	4393	13.11%	(576/4393)	16.19%	(407/2514)	8.77%	(162/1847)
Oregon	51	12942	12.03%	(1557/12942)	14.88%	(854/5740)	9.68%	(692/7149)
Pennsylvania	182	58902	13.5%	(7952/58902)	17.2%	(4901/28499)	9.88%	(2875/29090)
Rhode Island	20	6791	16.26%	(1104/6791)	17.83%	(405/2272)	15.48%	(697/4504)
South Carolina	54	19006	14.41%	(2738/19006)	16.93%	(1638/9675)	11.33%	(1001/8838)
South Dakota	29	3669	11.15%	(409/3669)	13.09%	(246/1880)	8.68%	(154/1775)
Tennessee	91	23826	13.78%	(3283/23826)	16.57%	(2026/12227)	10.14%	(1075/10597)
Texas	166	22992	15.4%	(3540/22992)	17.36%	(2423/13954)	11.98%	(917/7657)
Utah	7	1552	15.08%	(234/1552)	14.22%	(88/619)	8.64%	(21/243)
Vermont	9	3663	13.84%	(507/3663)	17.64%	(245/1389)	11.54%	(261/2261)
Virginia	95	28561	12.67%	(3620/28561)	15.18%	(2074/13666)	10.24%	(1487/14525)
Washington	82	19563	12.27%	(2401/19563)	15.03%	(1508/10036)	9.49%	(838/8833)

Lung Cancer Screening Statistics, Post-Exam Measures – Screening Exams performed in 2021

			Abnormal Interpretation Rate, baseline, annual, not indicated (%)		Abnormal Interpretation Rate, at baseline exam (%)		Abnormal Interpretation Rate, at annual exam (%)	
Aggregation Level	# Facilities	# Screening Exams	Rate	Num/Den	Rate	Num/Den	Rate	Num/Den
West Virginia	24	5389	17.67%	(952/5389)	20.66%	(685/3315)	12.34%	(250/2026)
Wisconsin	130	27388	13.11%	(3591/27388)	15.72%	(2014/12810)	10.82%	(1549/14314)
Wyoming	6	518	19.5%	(101/518)	19.54%	(93/476)	18.92%	(7/37)
LCSR	3593	866954	13.6%	(118067/867822)	16.52%	(70148/424750)	10.65%	(45005/422662)