

Oregon Areas of Unmet Health Care Need Report
September 2023

OREGON OFFICE OF RURAL HEALTH

IMPROVING THE QUALITY, AVAILABILITY AND ACCESSIBILITY OF HEALTH CARE FOR RURAL OREGONIANS

Areas of Unmet Health Care Need Report

The Oregon Office of Rural Health first developed the Areas of Unmet Health Care Need Report (AUHCN) in 1998 in response to a mandate from the Oregon Legislature to measure medical underservice in rural areas. This report has since been published annually and is used:

- To qualify a practice site for loan repayment and forgiveness programs (OAR 409-036-0010 [25] [A]);
- As part of a risk assessment formula for rural hospitals to receive cost-based Medicaid reimbursement (SB 607, passed in 1991; HB 3650, passed in 2011); and
- As part of the determination of “medically underserved” geographic areas for the Oregon Governor’s Health Care Shortage Area Designation.

The report includes nine variables that measure access to and utilization of primary physical, mental, and oral health care. This report can be used by state partners to prioritize financial and technical assistance, and by health care constituents to advocate for unmet needs in their community.

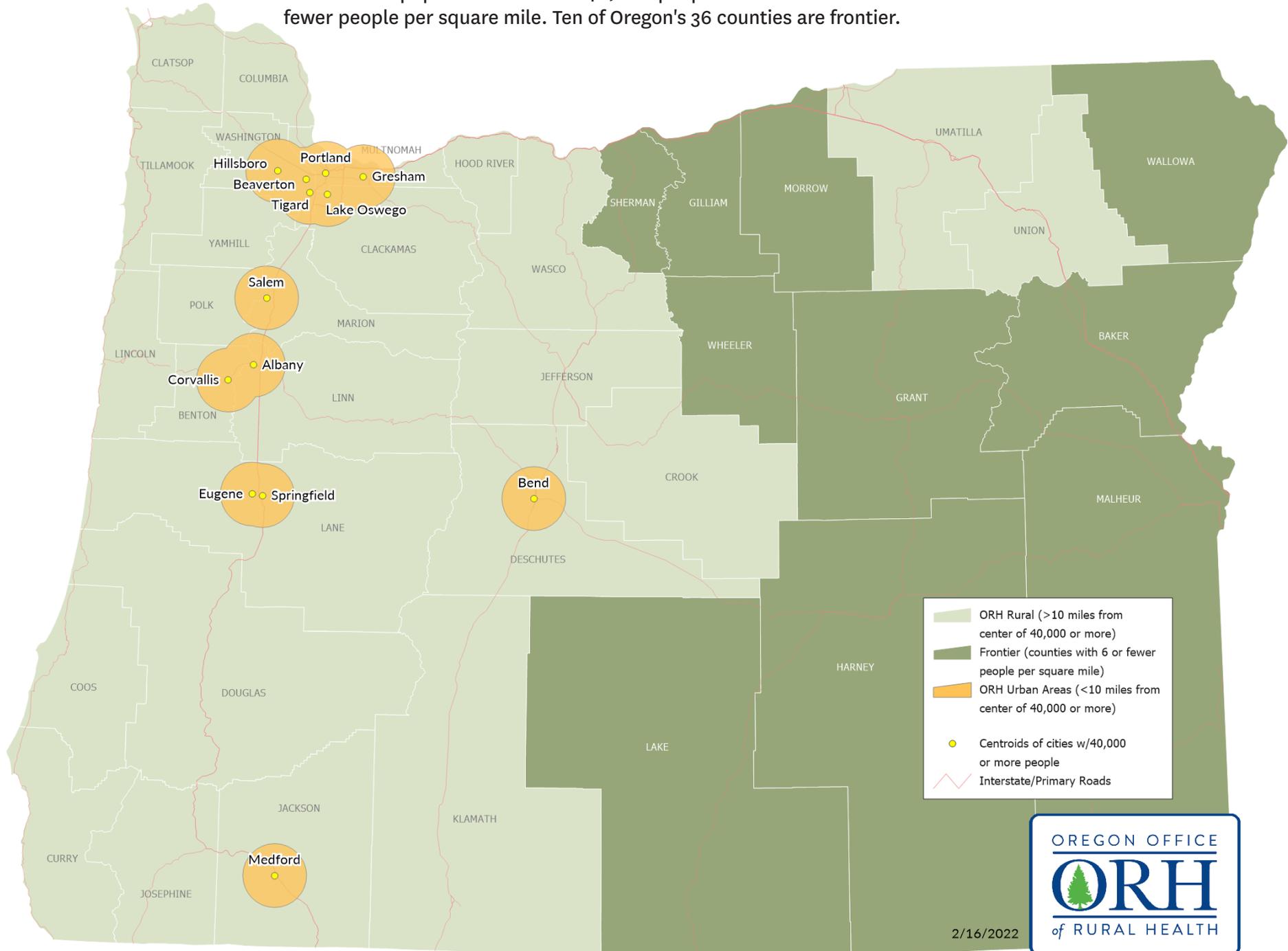
Contents

WHAT IS CONSIDERED RURAL AND FRONTIER?	3
SUMMARY RESULTS	4
Overview	4
Highlights	5
Figure 1. Overall Scores By Service Area.....	6
Figure 2. Ranked Service Area Scores (Highest Unmet Need to Lowest).....	7
METHODOLOGY	11
Primary Care Service Areas	11
The Variables Used in the AUHCN Calculation	12
Category One: Availability of Providers	13
1) Travel Time to Nearest Patient Centered Primary Care Home (PCPCH).....	13
Figure 3. Service Areas Above Average Travel Time to Nearest PCPCH.....	14
2) Primary Care Capacity (Percent of Primary Care Visits Able to Be Met).....	15
Figure 4. Service Areas Below Oregon’s Primary Care Capacity Ratio.....	17
3) Dentists Per 1,000 Population.....	18
Figure 5. Service Areas Below Oregon’s Dentist Per 1,000 Population Rate.....	19
4) Mental Health Providers Per 1,000 Population.....	20
Figure 6. Service Areas Below Oregon’s Mental Health Provider Per 1,000 Population Rate.....	21
Category Two: Ability to Afford Care	22
5) Percent of the Population Between 138% and 200% of the Federal Poverty Level (FPL).....	22
Figure 7. Service Areas Above Oregon’s 138% - 200% FPL Rate.....	23
Category Three: Utilization	24
6) Inadequate Prenatal Care Rate Per 1,000 Births.....	24
Figure 8. Service Areas Above Oregon’s Inadequate Prenatal Care Rate Per 1,000 Births.....	25
7) Ambulatory Care Sensitive Conditions (ACSC)/Preventable Hospitalizations Per 1,000 Population.....	26
Figure 9. Service Areas Above Oregon’s ACSC Rate Per 1,000 Population.....	27
8) Emergency Department Non-Traumatic Dental Visits Per 1,000 Population.....	28
Figure 10. Service Areas Above Oregon’s Non-Traumatic Emergency Department Dental Visit Rate Per 1,000 Population.....	30
9) Emergency Department Mental Health/Substance Use Visits Per 1,000 Population.....	31
Figure 11. Service areas Above Oregon’s Emergency Department Mental Health/Substance Use Visit Rate Per 1,000 Population	33
Total Scores	34

We welcome your feedback. If you have any questions or suggestions about this report, please contact Emerson Ong at ong@ohsu.edu.

What is Considered Rural and Frontier?

The Oregon Office of Rural Health defines rural as all geographic areas in Oregon 10 or more miles from the centroid of a population center of 40,000 people or more. Frontier counties are defined as those with six or fewer people per square mile. Ten of Oregon's 36 counties are frontier.



Summary Results

Overview

Nine variables are used to calculate unmet need scores for each of Oregon's 128 primary care service areas. The lowest and worst score possible is 0. The highest and best score possible is 90. A lower score means greater unmet need. For 2023, scores in Oregon ranged from 22 (worst) to 78 (best). In 2022, it ranged from 18 to 79. Warm Springs has had the lowest score for the past three years.

Rural and frontier service areas have greater unmet need (lower scores) than urban areas:

Mean (Average) Score by Geographic

Area	2023	2022	2021
Oregon	49.1	49.4	49.4
Urban	61.6	62.1	62.6
Rural (without Frontier)	46.1	45.9	46.0
Rural (including Frontier)	46.2	46.4	46.4
Frontier	46.9	48.9	48.0

The mean (average) score for Oregon overall is 49.1, which is similar to last year's average of 49.4. Seventy of the 128 service areas fall below that score. The number of service areas by geographic type with scores below the Oregon average include:

Urban:	2 out of 24 (8%)
Rural (without frontier):	56 out of 86 (65%)
Rural (including frontier):	68 out of 104 (65%)
Frontier:	12 out of 18 (67%)

Greatest Unmet Need Areas			Least Unmet Need Areas		
	2023	2022		2023	2022
Warm Springs	22	18	Portland SW	78	79
East Klamath	26	24	Tigard	70	70
Swisshome/ Triangle Lake	28	27	Portland NE	69	70
Glendale	29	27	Lake Oswego	69	70
North Lake	32	40	Bend	68	69
Drain/Yoncalla	32	31	Oregon City	67	68
Merrill	32	33	Beaverton	67	67
Port Orford	34	26	Hood River	66	68
Cave Junction	35	33	Portland NW	65	67
Chiloquin	35	32	Portland North	65	65
Lowell/Dexter	36	35	Hillsboro/Forest Grove	65	66
Myrtle Creek	36	38	Eugene/University	65	65
Powers	36	29	Corvallis/Philomath	65	66

Highlights

1. The average travel time to the nearest Patient Centered Primary Care Home (PCPCH) in Oregon is 12.6 minutes. **However, in 21 rural or frontier service areas where no PCPCH is available, the average drive time increases to 26 minutes.** (Pages 13-14)
2. The overall ratio of estimated primary care visits that existing providers in Oregon can accommodate is 0.98. Rural and frontier regions have a lower average ratio of 0.72, indicating a higher demand than supply. **Notably 10 primary care service areas, all rural or frontier, have zero primary care provider FTE.** (Pages 15-17)
3. Oregon has a dentist patient care ratio of 0.5 FTE per 1,000 people, with rural and frontier areas averaging 0.3 FTE. **All 25 primary care service areas lacking any dentist FTE are situated in rural or frontier areas.** (Pages 18-19)
4. The state has 1.15 mental health care provider FTE per 1,000 people; however, rural and frontier areas only provide 0.52 FTE on average. **All 26 primary care service areas without mental health provider FTE are found in rural or frontier areas.** (Pages 20-21)
5. In the years 2017-2021, around 10% of Oregon's population fell between **138% and 200% of the Federal Poverty Level**, making them unlikely to afford health insurance without employer assistance. **Notably, certain areas such as Burns (24%), Fossil (24%), Heppner (20%), and Blodgett-Eddyville (20%) exhibit rates twice or more than the state average.** (Pages 22-23)
6. For 2017-2021, Oregon's average **inadequate prenatal care rate** is 60.3 per 1,000 births annually. **Frontier service areas, on average, display a significantly higher rate of 97.3 per 1,000 births, which is nearly 10% of all births. Warm Springs stands out with a rate of 293.1. An additional eight service areas, all rural or frontier, are more than double the state rate.** (Pages 24-25)
7. Oregon's three-year (2020-2022) average **preventable hospitalization/ACSC rate** is 5.8 per 1,000 people yearly. However, rural and frontier areas show a higher average rate of 7.0 per 1,000. **Notably, Warm Springs (22.2), Reedsport (15.0), Clatskanie (13.8), and Bandon (12.2) exhibit rates over double the state average.** (Pages 26-27)
8. Within the same three-year period, non-traumatic dental emergency department (ED) visits in Oregon reached a rate of 3.0 per 1,000 people annually, with rural areas having a higher rate of 4.2 per 1,000. **Eighteen service areas, all rural or frontier, have over double the state's dental ED visit rate, with Warm Springs leading with a rate of 17.7, several times the state average.** (Pages 28-30)
9. Oregon has a three-year (2020-2022) average mental health/substance use ED visit rate of 16.3 per 1,000 people annually. This is the only variable where rural and frontier areas (15.7), on average, do better than urban areas (17.4). **However, Warm Springs, a rural area, stands out with a notably high rate of 74.5, several times the state average.** (Pages 31-33)
10. Oregon has an average Unmet Need Score of 49.1 out of 90. **All but two of the 70 service areas that have a score worse than this are rural or frontier areas.** (Page 34)

Figure 2.

Ranked Service Area Scores (Highest Unmet Need to Lowest)

The worst score in each column is darkest orange, and the best score is darkest blue with graduated shading for the numbers between the best and worst.

Service Area	Designation	Total Score	Travel Time to Nearest PCPCH	Primary Care Capacity Ratio	Dentists per 1,000	Mental Health Providers per 1,000	138-200% of Federal Poverty Level	Inadequate Prenatal Care Rate	Preventable Hospitalizations per 1,000	Emergency Dept Dental Visits per 1,000	Emergency Dept Mental Visits per 1,000
Warm Springs	Rural	22	18	2.09	0.21	0.00	15%	293.1	22.2	17.7	74.5
East Klamath	Rural	26	32	0.00	0.00	0.00	13%	161.3	7.9	5.9	16.8
Swisshome/ Triangle Lake	Rural	28	27	0.00	0.00	0.00	19%	90.9	4.8	5.9	17.6
Glendale	Rural	29	22	0.05	0.00	0.00	11%	96.2	10.0	6.3	16.8
North Lake	Frontier	32	67	0.34	0.00	0.37	15%	142.9	10.9	1.6	11.9
Drain/Yoncalla	Rural	32	21	0.19	0.00	0.18	13%	67.5	7.8	6.7	12.6
Merrill	Rural	32	25	0.00	0.00	0.00	15%	67.7	6.3	4.3	12.2
Port Orford	Rural	34	31	0.35	0.00	0.48	12%	73.2	9.5	8.1	16.5
Cave Junction	Rural	35	10	0.33	0.00	0.16	16%	104.8	10.7	3.7	17.8
Chiloquin	Rural	35	30	0.45	0.38	0.18	17%	102.6	9.1	5.3	16.0
Lowell/Dexter	Rural	36	22	0.00	0.05	0.24	15%	52.9	6.4	4.2	10.6
Myrtle Creek	Rural	36	10	0.14	0.00	0.00	13%	65.1	6.0	5.6	15.5
Powers	Rural	36	30	0.00	0.00	0.00	9%	19.2	8.8	4.4	15.1
Gold Beach	Rural	37	10	0.77	0.00	0.26	15%	130.4	10.3	8.2	22.5
Oakridge	Rural	37	10	0.34	0.00	0.14	16%	93.1	9.9	3.9	14.7
Shady Cove	Rural	37	10	0.09	0.38	0.00	16%	113.7	11.3	4.0	17.6
Yachats	Rural	37	12	0.19	0.04	0.49	15%	111.1	10.1	4.0	7.7
Arlington	Frontier	38	25	0.75	0.00	0.00	10%	116.3	7.6	2.8	9.0
Jordan Valley	Frontier	38	75	0.00	0.00	0.00	13%	107.1	0.0	0.6	2.5
Blodgett-Eddyville	Rural	38	13	0.00	0.00	0.00	20%	14.7	8.8	1.7	7.6
Reedsport	Rural	38	10	0.74	0.31	0.17	16%	150.7	15.0	8.2	21.6
Irrigon	Frontier	39	10	0.35	0.00	0.00	10%	126.9	8.3	5.4	11.8
Cascade Locks	Rural	39	21	0.00	0.00	0.00	10%	25.6	7.2	2.5	14.3
Mill City/Gates	Rural	39	10	0.32	0.19	0.02	16%	89.4	7.0	5.9	14.5
Coquille/ Myrtle Point	Rural	40	10	0.53	0.13	0.29	13%	76.5	11.5	5.5	16.6
Sweet Home	Rural	40	10	0.39	0.09	0.22	13%	64.7	9.6	4.2	15.4
Heppner	Frontier	42	10	0.36	0.14	0.33	20%	65.8	11.0	4.2	8.3
Clatskanie	Rural	42	10	0.07	0.24	0.05	12%	74.7	13.8	3.1	11.0
Harrisburg	Rural	42	10	0.00	0.06	0.17	15%	60.4	5.1	2.6	11.5
Scio	Rural	42	12	0.06	0.02	0.00	9%	49.5	6.3	2.9	8.6
Sutherlin	Rural	42	10	0.23	0.10	0.00	16%	36.1	6.0	3.4	14.5

Service Area	Designation	Total Score	Travel Time to Nearest PCPCH	Primary Care Capacity Ratio	Dentists per 1,000	Mental Health Providers per 1,000	138-200% of Federal Poverty Level	Inadequate Prenatal Care Rate	Preventable Hospitalizations per 1,000	Emergency Dept Dental Visits per 1,000	Emergency Dept Mental Visits per 1,000
Waldport	Rural	42	10	0.23	0.11	0.26	8%	89.0	7.7	6.7	16.7
Alesea	Rural	43	10	0.00	0.00	0.17	15%	58.8	4.8	1.8	9.9
Cloverdale	Rural	43	10	0.19	0.13	0.18	12%	67.1	6.3	3.8	13.8
La Pine	Rural	43	10	0.46	0.17	0.13	12%	83.5	10.5	3.2	13.8
Toledo	Rural	43	10	0.37	0.17	0.48	17%	38.3	8.9	7.3	16.8
Maupin	Rural	44	10	0.43	0.00	0.23	15%	63.3	8.5	2.8	6.3
McKenzie/Blue River	Rural	44	10	0.62	0.00	0.00	8%	121.2	7.5	3.2	12.2
Monroe	Rural	44	10	0.21	0.00	0.17	14%	37.0	5.8	3.1	10.1
Veneta	Rural	44	10	0.16	0.16	0.15	15%	55.7	6.7	3.0	11.7
Eugene West	Urban	44	10	0.53	0.20	0.33	13%	71.8	7.2	4.1	21.1
Canyonville	Rural	45	10	0.73	0.17	0.38	14%	56.9	11.3	4.3	21.1
Glide	Rural	45	10	0.23	0.13	0.00	10%	42.4	4.5	4.7	13.5
Milton-Freewater	Rural	45	16	0.10	0.33	0.00	15%	82.4	9.3	0.2	2.0
Rogue River	Rural	45	10	0.22	0.19	0.24	11%	74.6	7.8	3.2	15.2
Siletz	Rural	45	13	1.30	0.72	0.18	13%	94.0	8.5	7.7	13.5
Condon	Frontier	46	22	1.32	0.15	0.00	13%	73.2	6.5	3.9	4.5
John Day	Frontier	46	10	1.00	0.28	0.04	14%	89.5	9.3	5.1	13.0
Moro/Grass Valley	Frontier	46	10	0.63	0.00	0.00	19%	15.9	5.7	5.7	3.7
Brookings	Rural	46	10	0.77	0.47	0.44	17%	85.4	7.4	9.4	19.7
Cottage Grove	Rural	46	10	0.53	0.28	0.34	11%	80.5	8.0	8.4	20.2
Eagle Point	Rural	46	10	0.18	0.14	0.21	12%	60.6	7.0	2.5	12.1
Lincoln City	Rural	46	10	0.83	0.14	0.50	13%	65.7	8.7	7.0	21.1
Union	Rural	46	10	0.29	0.07	0.00	12%	45.0	5.9	3.1	8.5
Bandon	Rural	47	10	1.00	0.36	0.34	15%	58.8	12.2	5.5	16.0
Estacada	Rural	47	10	0.25	0.13	0.13	13%	45.7	6.0	2.3	11.4
Madras	Rural	47	10	0.76	0.22	0.41	10%	100.0	7.1	8.5	19.5
Seaside	Rural	47	10	0.79	0.24	0.58	13%	81.0	8.5	5.3	25.5
Willamina	Rural	47	10	0.38	0.24	0.37	11%	66.6	8.2	5.1	16.6
Winston	Rural	47	10	0.28	0.17	0.68	12%	52.6	7.8	5.5	17.4
Baker City	Frontier	48	10	0.76	0.25	1.02	15%	67.3	7.7	7.2	16.9
Fossil	Frontier	48	10	1.21	0.22	0.00	24%	39.2	10.8	3.2	5.0
Vale	Frontier	48	10	0.37	0.18	0.00	17%	88.3	2.6	2.1	8.5
Elgin	Rural	48	10	0.68	0.30	0.00	11%	61.4	8.0	5.3	11.0
Wemme	Rural	48	10	0.16	0.23	0.03	11%	68.1	4.8	2.3	9.4
Phoenix/Talent	Urban	48	10	0.24	0.16	0.50	13%	62.3	5.4	3.2	16.0
Burns	Frontier	49	10	0.88	0.21	0.50	24%	35.7	9.2	4.3	14.6

Service Area	Designation	Total Score	Travel Time to Nearest PCPCH	Primary Care Capacity Ratio	Dentists per 1,000	Mental Health Providers per 1,000	138-200% of Federal Poverty Level	Inadequate Prenatal Care Rate	Preventable Hospitalizations per 1,000	Emergency Dept Dental Visits per 1,000	Emergency Dept Mental Visits per 1,000
Applegate/Williams	Rural	49	11	0.13	0.26	0.19	11%	62.2	5.9	2.8	9.3
Lebanon	Rural	49	10	0.75	0.27	0.33	15%	37.2	7.4	4.2	14.7
Prineville	Rural	49	10	0.54	0.30	0.42	12%	57.2	8.1	7.5	17.5
OREGON		49.1	12.6	0.98	0.47	1.15	10%	60.3	5.8	3.0	16.3
Halfway	Frontier	50	10	0.38	0.00	0.16	15%	13.3	4.4	1.8	5.7
Hermiston	Rural	50	10	0.93	0.33	0.25	16%	99.9	5.9	3.5	12.4
Boardman	Frontier	51	10	0.85	0.00	0.52	12%	154.6	4.1	2.3	12.2
Coos Bay	Rural	51	10	1.08	0.33	0.73	10%	71.5	11.9	6.4	25.3
Dallas	Rural	51	10	0.35	0.18	0.40	11%	36.8	5.6	4.2	13.5
Florence	Rural	51	10	0.76	0.49	0.79	14%	85.3	7.3	5.3	15.4
Junction City	Rural	51	10	0.33	0.16	0.79	10%	61.1	6.7	2.6	12.5
Klamath Falls	Rural	51	10	1.19	0.44	0.79	14%	95.1	7.3	7.0	22.3
Nehalem	Rural	51	10	0.66	0.00	0.89	12%	76.3	6.3	2.0	8.4
Tillamook	Rural	52	10	1.03	0.37	0.53	14%	64.3	7.5	4.2	20.0
Woodburn	Rural	52	10	0.60	0.24	0.27	16%	52.1	4.3	1.9	10.8
Brownsville	Rural	53	10	0.14	0.29	0.00	10%	22.5	5.9	3.0	9.8
Molalla	Rural	53	10	0.22	0.34	0.02	8%	53.6	5.2	2.2	13.0
Vernonia	Rural	53	10	0.22	0.23	0.20	7%	61.9	5.9	1.9	14.0
Springfield	Urban	53	10	1.57	0.32	0.51	12%	71.6	7.8	5.2	19.1
La Grande	Rural	54	10	1.24	0.45	0.86	13%	70.4	6.0	4.7	14.5
McMinnville	Rural	54	10	0.68	0.39	0.52	11%	51.2	6.9	4.5	20.4
Lakeview	Frontier	55	10	1.22	0.51	0.58	10%	90.9	10.2	4.7	18.7
Nyssa	Frontier	55	10	0.52	0.49	0.00	10%	107.0	2.6	2.2	9.5
Astoria	Rural	55	10	0.90	0.34	0.78	14%	57.5	8.1	3.9	19.8
Grants Pass	Rural	55	10	0.89	0.52	0.59	14%	61.8	8.6	3.5	19.3
Sandy	Rural	55	10	0.20	0.20	0.32	6%	61.4	4.7	1.8	11.3
Stayton	Rural	55	10	1.15	0.30	0.26	11%	39.6	6.7	5.2	14.0
The Dalles	Rural	55	10	1.16	0.48	0.81	14%	52.4	7.2	4.7	16.7
Portland East	Urban	55	10	0.92	0.48	0.66	12%	98.9	7.0	4.0	21.6
Ontario	Frontier	56	10	1.66	0.67	0.63	15%	140.9	3.7	4.2	17.7
Canby	Rural	56	10	0.51	0.36	0.38	13%	56.5	4.6	1.5	11.1
Newport	Rural	56	10	1.16	0.74	1.59	13%	52.1	8.8	7.9	21.8
Pendleton	Rural	56	10	1.13	0.35	0.74	11%	75.3	6.8	4.5	14.6
St. Helens	Rural	56	10	0.43	0.26	0.39	12%	46.4	6.7	1.7	12.2
Albany	Urban	56	10	0.62	0.35	0.65	11%	42.6	5.8	3.6	13.7
Gresham	Urban	56	10	0.73	0.48	0.60	10%	72.5	5.5	3.3	18.1

Service Area	Designation	Total Score	Travel Time to Nearest PCPCH	Primary Care Capacity Ratio	Dentists per 1,000	Mental Health Providers per 1,000	138-200% of Federal Poverty Level	Inadequate Prenatal Care Rate	Preventable Hospitalizations per 1,000	Emergency Dept Dental Visits per 1,000	Emergency Dept Mental Visits per 1,000
Medford	Urban	56	10	1.32	0.58	1.17	13%	60.8	7.5	3.8	21.1
Salem North	Urban	56	10	0.65	0.37	0.57	12%	49.3	6.0	2.5	14.2
Wallowa/Enterprise	Frontier	57	10	1.79	0.50	0.38	17%	35.3	11.0	2.9	11.1
Redmond	Rural	57	10	0.56	0.51	0.80	13%	47.6	5.2	3.1	14.2
Milwaukie	Urban	57	10	0.45	0.48	1.01	8%	51.9	5.7	3.3	19.8
Roseburg	Rural	58	10	1.39	0.56	1.29	13%	37.5	6.0	4.9	21.0
Eugene South	Urban	61	10	0.32	0.42	0.86	7%	62.8	4.2	2.1	11.5
Salem South	Urban	61	10	1.27	0.64	1.80	12%	53.1	6.8	3.1	19.4
Ashland	Rural	62	10	1.16	0.48	1.95	9%	72.6	3.7	3.2	18.9
Portland SE	Urban	63	10	0.42	0.42	2.20	8%	41.5	3.8	1.7	16.0
Newberg	Rural	64	10	0.98	0.38	0.93	9%	44.0	3.9	2.6	13.0
Silverton/Mt. Angel	Rural	64	10	1.16	0.32	0.57	10%	35.6	5.1	1.9	9.9
Sisters	Rural	64	10	0.63	0.36	0.87	9%	43.8	4.3	1.4	8.7
Corvallis/Philomath	Urban	65	10	1.23	0.48	1.54	9%	38.8	4.0	1.8	15.5
Eugene/University	Urban	65	10	1.80	0.91	4.22	11%	66.0	5.0	3.3	26.0
Hillsboro/Forest Grove	Urban	65	10	1.14	0.49	0.81	9%	48.9	4.2	1.9	13.4
Portland North	Urban	65	10	1.83	0.34	1.88	8%	56.9	5.1	2.7	22.2
Portland NW	Urban	65	10	1.24	0.45	1.50	5%	47.4	3.7	1.9	27.8
Hood River	Rural	66	10	1.73	0.79	1.23	13%	50.6	4.5	2.2	9.6
Beaverton	Urban	67	10	1.19	0.63	1.14	7%	47.9	3.8	1.6	14.8
Oregon City	Urban	67	10	1.93	0.68	1.51	7%	60.4	4.5	2.3	15.2
Bend	Urban	68	10	1.28	0.63	1.87	9%	44.0	3.7	1.8	12.7
Lake Oswego	Urban	69	10	0.65	0.68	1.52	5%	38.1	3.1	1.0	10.1
Portland NE	Urban	69	10	1.75	0.66	3.07	8%	52.6	4.7	1.8	18.4
Tigard	Urban	70	10	1.02	0.64	1.12	6%	43.1	3.6	1.3	12.7
Portland SW	Urban	78	10	2.33	1.05	4.93	6%	39.0	3.8	1.2	19.5

Download this as an Excel spreadsheet from our website: www.ohsu.edu/designations.

Compare the latest four years of Unmet Need Scores and each of the nine variables on a Tableau dashboard: <https://public.tableau.com/app/profile/oorh/viz/UnmetNeed/UnmetNeedFinal>.

Primary Care Service Areas

County-level data are often used to analyze local information in the United States because most counties have relatively small and homogeneous geographies. However, many of Oregon’s 36 counties are very large and diverse in terms of geography and population distribution. To address this, the Oregon Office of Rural Health created sub-county units to better reflect the use of health care services within specific communities.

Of the various small geographic boundaries that exist, only postal ZIP codes align with transportation and market patterns. Additionally, ZIP codes are often associated with a wealth of demographic, socioeconomic, and health utilization data. Therefore, the Oregon Office of Rural Health, with assistance from other state and local agencies, used ZIP codes as the basis for sub-county service areas, grouping all of Oregon’s over 470 ZIP codes into “Primary Care Service Areas” based on the following criteria:¹

- 1) Health resources are generally located within 30 minutes travel time.
- 2) Defined areas are not smaller than a single ZIP code and ZIP codes used are geographically contiguous and/or follow main roads.
- 3) Defined areas contain a population of at least 800 to 1,000 or more people.
- 4) Defined areas constitute a “rational” medical trade or market area considering topography, social and political boundaries, and travel patterns.
- 5) Additional considerations for service areas are boundaries that:
 - a) Are congruent with existing special taxing districts (e.g., health or hospital districts); and
 - b) Include a population that has a local perception that it constitutes a “community of need” for primary health care services or demonstrates demographic or socioeconomic homogeneity. The population should be large enough (800-1,000 or more) to be capable of financially supporting at least a single mid-level health care provider.

These areas are updated when necessary according to changes in population and health utilization. In 2020, the service areas in Portland were reconfigured to follow, as closely as possible, the widely accepted “quadrant” system. The resulting groupings of Portland NW, SW, SE, NE, North, and East, reduced the number of service areas in the city from eight to six.

There are 128 Oregon Primary Care Service Areas:

Urban: 24 | Rural + Frontier²: 104 | Rural Only: 86 | Frontier Only: 18

Six-page demographic, socioeconomic, and health status profiles for each rural and frontier service area are updated continuously and available for free. A sample profile, and more information, are available [here](#).

¹ Van Eck, Ethan; Bennett, Marge et. al. Strategic Plan for Primary Health Care in Rural Oregon, 1985-1990. September 30, 1985. (Available through the Office of Rural Health).

² Using the Oregon Office of Rural Health’s definition, rural is a geographic area 10 or more miles from the centroid of a city of 40,000 or more. The Bureau of Primary Health Care (BPHC) defines frontier as counties with six or fewer people per square mile.

The Variables Used in the AUHCN Calculation

To determine the measures described in this report, the Oregon Office of Rural Health researched academic publications and collected studies from other State Offices of Rural Health. These findings were presented to a group with knowledge of health utilization, hospital data, primary care, dental, and mental health services (see list of individuals and members below).

Data Requirements:

- Data points must be available at the ZIP code geographic level
- Data must be updated annually, at minimum
- Data must be available to the Oregon Office of Rural Health

The following nine variables were determined to be the best currently available measures of access to primary care, dental and mental health services for all ages. More detail on the sources and methodology for each variable is included in the following pages.

Category One: Availability of Providers—*Are needed providers available locally?*

1. Travel Time to Nearest Patient Centered Primary Care Home (PCPCH)
2. Primary Care Capacity (Percent of Primary Care Visits Needed Able to Be Met)
3. Dentists per 1,000 Population
4. Mental Health Providers per 1,000 Population

Category Two: Ability to Afford Care—*Can the local population afford health care?*

5. Percent of Population Between 138% and 200% of Federal Poverty Level (FPL)

Category Three: Utilization—*Are primary physical, mental and oral health care being used?*

6. Inadequate Prenatal Care Rate per 1,000 Births
7. Ambulatory Care Sensitive Conditions (ACSC)/Preventable Hospitalizations per 1,000 Population
8. Emergency Department Non-Traumatic Dental Visits per 1,000 Population
9. Emergency Department Mental Health/Substance Use Visits per 1,000 Population

The Oregon Office of Rural Health would like to thank the following for their participation:

Oregon Health Authority

Jackie Fabrick, Deputy Director, Behavioral Health
Marc Overbeck, Primary Care Office Director
Amanda Peden, Health Policy Analyst
Jeffery Scroggin, Policy Analyst

Oregon Association of Hospitals & Health Systems

Katie Harris, Director of Rural Health & Federal Policy
Andy Van Pelt, Executive Vice President

Greater Oregon Behavioral Health, Inc.

Paul McGinnis, CCO Integration Director

Oregon Health & Science University

Eli Schwarz, Chair of Department of Community Dentistry

Category One: Availability of Providers

1.) Travel Time to Nearest Patient Centered Primary Care Home (PCPCH)

Description:

A Patient Centered Primary Care Home (PCPCH) is a health care clinic that has been officially recognized by the Oregon Health Authority (OHA) for providing high quality, patient-centered care. All PCPCHs must possess a minimum set of 11 criteria. For this report, three criteria were considered to be particularly good indicators of community access to primary care, and instrumental in preventing misuse of the emergency room. These include screening and referral for mental health and substance use disorder, 24/7 access to live clinical advice by telephone, and ongoing management of chronic diseases.

Data Source:

List of PCPCHs from Patient Centered Primary Care Home Program, Oregon Health Authority (July 2022)

Methodology:

Google Maps was used to determine driving times from the largest town in the Primary Care Service Area to the town where the nearest PCPCH is located. Service areas that already have a PCPCH in their largest town are defaulted to a drive time of 10 minutes.

V1 = Drive time in minutes

Results:

Average drive time to the nearest PCPCH for all 128 Primary Care Service Areas in Oregon is 12.6, almost the same as last year's average of 12.2 minutes. North Lake lost its PCPCH designation in the past year, leading to a significant increase in the population's drive time to 67 minutes to LaPine. Twenty-one service areas, all rural or frontier, do not have a PCPCH, and drive times average 26 minutes to the nearest PCPCH for these areas.

Travel Time to Nearest PCPCH in Minutes

(lower is better)

	2023	2022
Oregon	12.6	12.2
Urban	10	10
Rural (without Frontier)	12.1	12.1
Rural (including Frontier)	13.2	12.7
Frontier	18.3	15.1

Five Longest Travel Times to PCPCH

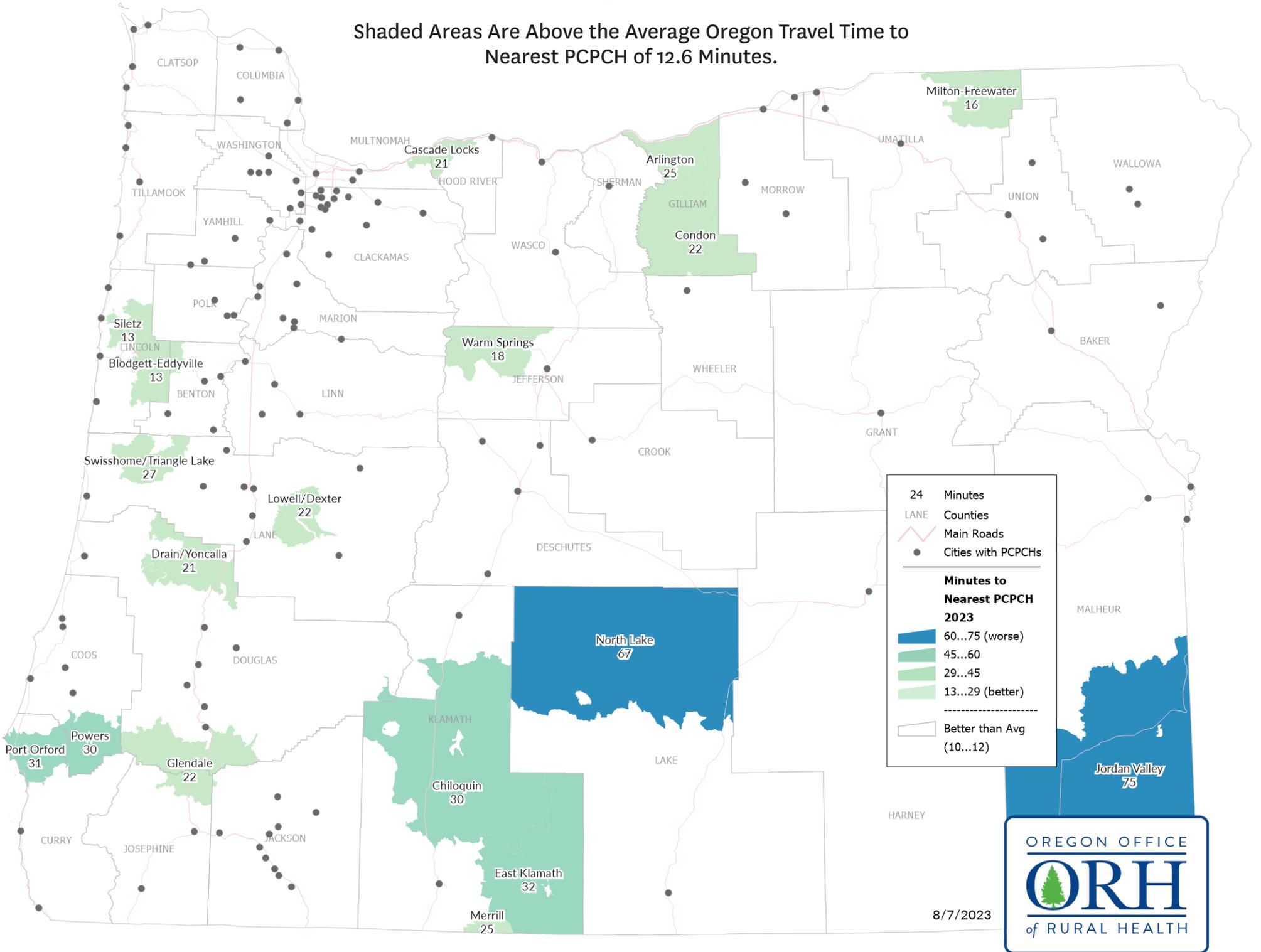
in Minutes

	2023	2022
Jordan Valley	75	75
North Lake	67	10
East Klamath	32	32
Port Orford	31	31
Powers	30	30

³ 2020 Recognition Criteria Technical Specifications and Reporting Guide: <https://www.oregon.gov/oha/HPA/dsi-pcpch/Documents/2020-PCPCH-TA-Guide.pdf>.

Figure 3.

Shaded Areas Are Above the Average Oregon Travel Time to Nearest PCPCH of 12.6 Minutes.



8/7/2023



2.) Primary Care Capacity (Percent of Primary Care Visits Able to be Met)

Description:

This measure compares the estimated number of visits that primary care providers in the service area should be able to supply, with the estimated primary care visits needed by the demographic breakdown of the local population. The primary care providers in this variable include general and family physicians, pediatricians, obstetrician-gynecologists, internists, primary care physician assistants (PA), and primary care nurse practitioners (NP).

Data Source:

Estimated Primary Care Visits Provided:

Patient care FTE for all the providers listed above is from the Oregon Health Authority's (OHA) Health Care Workforce Reporting Program Database: licensure surveys⁴ using primary and secondary work locations. The physician/PA and NP surveys include renewals as of January 2023. Only providers renewing their licenses are required to fill out the surveys, so first-time licensees are not included in the FTE count. An increasing number of providers also report having a "mobile practice or work in an outcall capacity." These providers are not required to give a work address and are not included in the FTE counts below.

Estimated number of visits provided per year by primary care specialty is the average between the 2021 Health Resources and Services Administration (HRSA) Federally Qualified Health Center (FQHC) National⁵ Staffing and Utilization numbers and the Oregon⁶ Staffing and Utilization numbers.

Estimated Primary Care Visits Needed:

Periodically adjusted rates from the National Ambulatory Medical Care Survey: State and National Summary Tables, National Center for Health Statistics (2019)⁷

Local population data by ZIP code: Claritas (2023)

Methodology:

- a) Estimated Number of Primary Care Visits Provided Per Year =
- $$\begin{aligned} & ([\text{FTE of Family Med/Practitioners}] \times 2332) + \\ & ([\text{FTE of General Practitioners}] \times 2201) \\ & ([\text{FTE of Internists}] \times 2155) + \\ & ([\text{FTE of Obstetrician-gynecologists}] \times 1882) + \\ & ([\text{FTE of Pediatricians}] \times 2258) + \\ & ([\text{FTE of Primary care nurse practitioners}] \times 2036) + \\ & ([\text{FTE of Primary care physician assistants}] \times 2340) \end{aligned}$$

⁴ <https://www.oregon.gov/oha/HPA/ANALYTICS/Pages/Health-Care-Workforce-Reporting.aspx>

Data from the OHA's Health Care Workforce Reporting Program Database were used to produce this product. Statements contained herein are solely those of the authors and the OHA assumes no responsibility for the accuracy and completeness of the analyses contained in the product.

⁵ <https://data.hrsa.gov/tools/data-reporting/program-data/national/table?tableName=5&year=2020>

⁶ <https://data.hrsa.gov/tools/data-reporting/program-data/state/OR/table?tableName=5>

⁷ https://www.cdc.gov/nchs/data/ahcd/namcs_summary/2018-namcs-web-tables-508.pdf.

b) Estimated Number of Primary Care Visits Needed = 0.8⁸ x

$$\begin{aligned}
 & (([\text{Female Population 0-14}] \times 2) + \\
 & ([\text{Female Population 15-24}] \times 2) + \\
 & ([\text{Female Population 25-44}] \times 2.6) + \\
 & ([\text{Female Population 45-64}] \times 4.1) + \\
 & ([\text{Female Population 65-74}] \times 7.2) + \\
 & ([\text{Female Population 75+}] \times 7.6) + \\
 & ([\text{Male Population 0-14}] \times 1.9) + \\
 & ([\text{Male Population 15-24}] \times 1.1) + \\
 & ([\text{Male Population 25-44}] \times 1.3) + \\
 & ([\text{Male Population 45-64}] \times 3.3) + \\
 & ([\text{Male Population 65-74}] \times 5.9) + \\
 & ([\text{Male Population 75+}] \times 8))
 \end{aligned}$$

c) Estimated visits provided is divided by the estimated number of primary care visits needed. The final variable is a ratio of need being met, using the following formula:

$$V2 = \frac{\text{Estimated Visits Provided}}{\text{Estimated Primary Care Visits Needed}}$$

Results:

A ratio of 1.00 signifies a balance between supply and demand, assuming uniform access and affordability. A lower ratio indicates higher demand, whereas a higher ratio indicates excess supply. In Oregon, the estimated ratio of primary care visits that can be accommodated stands at 0.98, which is lower than last year and might be due to the increasing number of mobile workers with no fixed address. This ratio implies that if health care providers were evenly distributed across the state, the primary care capacity should sufficiently match patient requirements. However, rural and frontier service areas exhibit a lower ratio of 0.72, suggesting a more pronounced demand-supply gap. There are 10 service areas, all rural, that do not have any primary care provider FTE: Alsea, Blodgett-Eddyville, Cascade Locks, East Klamath, Harrisburg, Jordan Valley, Lowell/Dexter, Merrill, Powers, and Swisshome/Triangle Lake.

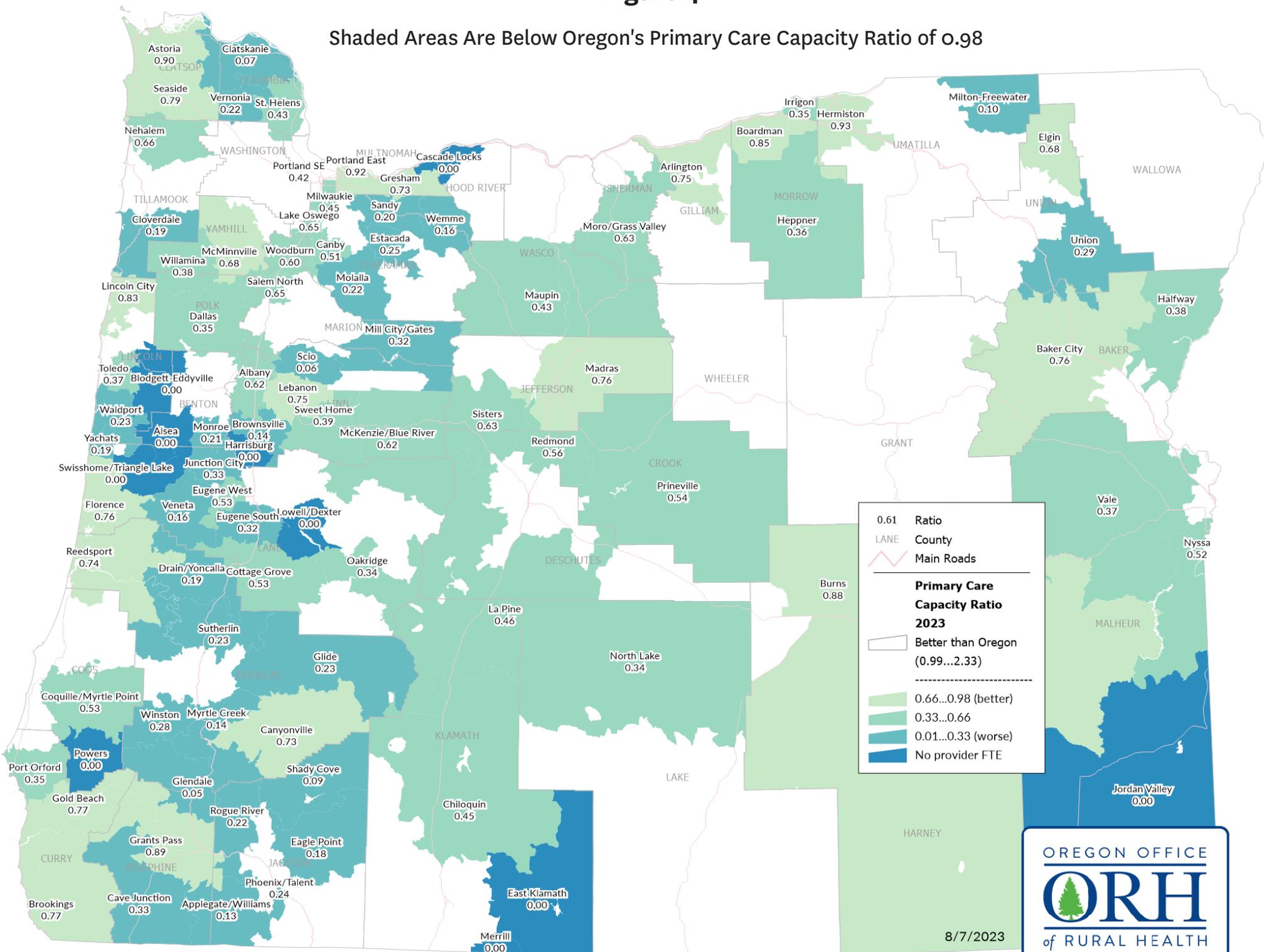
**Primary Care Capacity Ratio
(higher is better)**

	2023	2022
Oregon	0.98	1.21
Urban	1.13	1.38
Rural (without Frontier)	0.70	0.88
Rural (including Frontier)	0.72	0.91
Frontier	1.01	1.31

⁸ All multipliers are from the National Ambulatory Medical Care Survey; which estimates visits to all types of physicians. Since primary care from all providers in rural areas accounts for 80% of those visits, the calculation here is multiplied by 0.8.

Figure 4.

Shaded Areas Are Below Oregon's Primary Care Capacity Ratio of 0.98



3.) Dentists Per 1,000 Population

Description:

Patient care FTE of local dentists as a ratio to local population.

Data Sources:

Dentist patient care FTE is from the Oregon Health Authority’s Health Care Workforce Reporting Program: licensure survey (renewals as of January 2023) for both primary and secondary work locations. Only providers renewing their licenses are required to fill out the surveys, so first-time licensees are not included in the FTE count.

Local population: Claritas (2023)

Methodology:

$$V_3 = \frac{\text{Dentist patient care FTE}}{\text{Local population}} \times 1,000$$

Results:

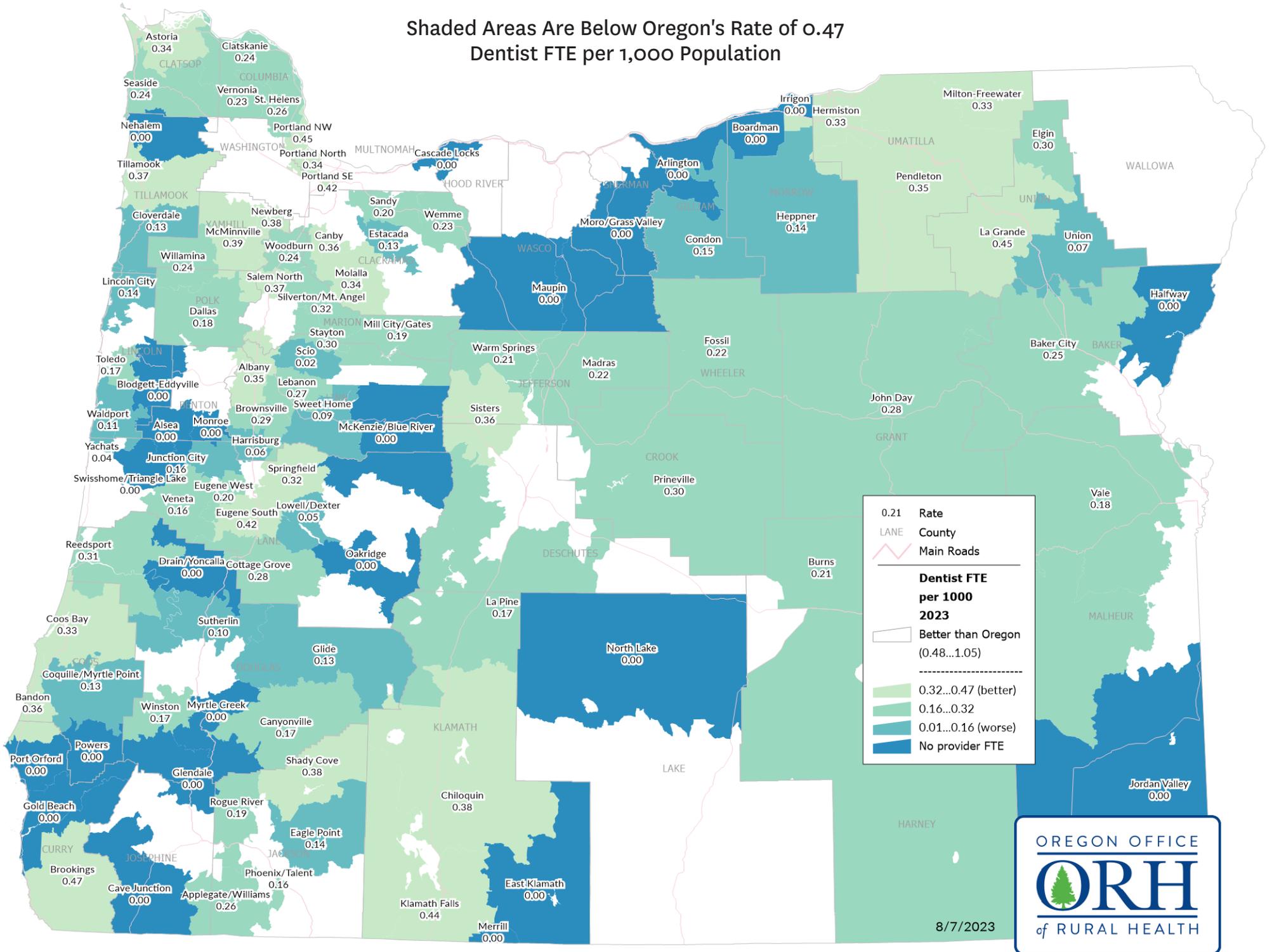
Oregon has 0.47 dentist patient care FTE per 1,000 people, which is similar to last year’s result of 0.49. Twenty-five primary care service areas (all rural or frontier) have no dentist FTE. The urban areas of Portland SW (1.05) and Eugene/University (0.91) have the highest numbers of dentists per 1,000 people.

Primary Care Service Areas with no dentists include: Alsea, Arlington, Blodgett-Eddyville, Boardman, Cascade Locks, Cave Junction, Drain/Yoncalla, East Klamath, Glendale, Gold Beach, Halfway, Irrigon, Jordan Valley, Maupin, McKenzie/Blue River, Merrill, Monroe, Moro/Grass Valley, Myrtle Creek, Nehalem, North Lake, Oakridge, Port Orford, Powers, and Swisshome/Triangle Lake.

Dentists per 1,000 Population (higher is better)	2023	2022
Oregon	0.47	0.49
Urban	0.55	0.58
Rural (without Frontier)	0.32	0.32
Rural (including Frontier)	0.32	0.32
Frontier	0.34	0.32

Figure 5.

Shaded Areas Are Below Oregon's Rate of 0.47
Dentist FTE per 1,000 Population



4.) Mental Health Providers Per 1,000 Population

Description:

Count of all psychiatrist FTE, psychologist FTE, licensed professional counselor/marriage and family therapist FTE, clinical social worker FTE, psychiatric nurse practitioner FTE, and psychiatric physician assistant FTE as a ratio to the local population.

Data Source:

All providers' patient care FTE numbers are from the Oregon Health Authority's Health Care Workforce Reporting Program: licensure surveys for both primary and secondary work locations for renewals as of January 2023. Only providers renewing their licenses are required to fill out the surveys, so first-time licensees are not included in the FTE count. Providers who perform telehealth/mobile work and do not have a physical work address are also not included.

Local population data: Claritas (2023)

Methodology:

$$V4 = \frac{\text{Sum of mental health provider FTE} \times 1000}{\text{Local population}}$$

Results:

There are 1.15 mental health provider FTE per 1,000 people in Oregon, which is the same as last year's rate. Twenty-six service areas (all rural or frontier) have no mental health providers. The highest FTE per 1,000 are in the urban areas of Portland SW (4.9), Eugene/University (4.2) and Portland NE (3.1).

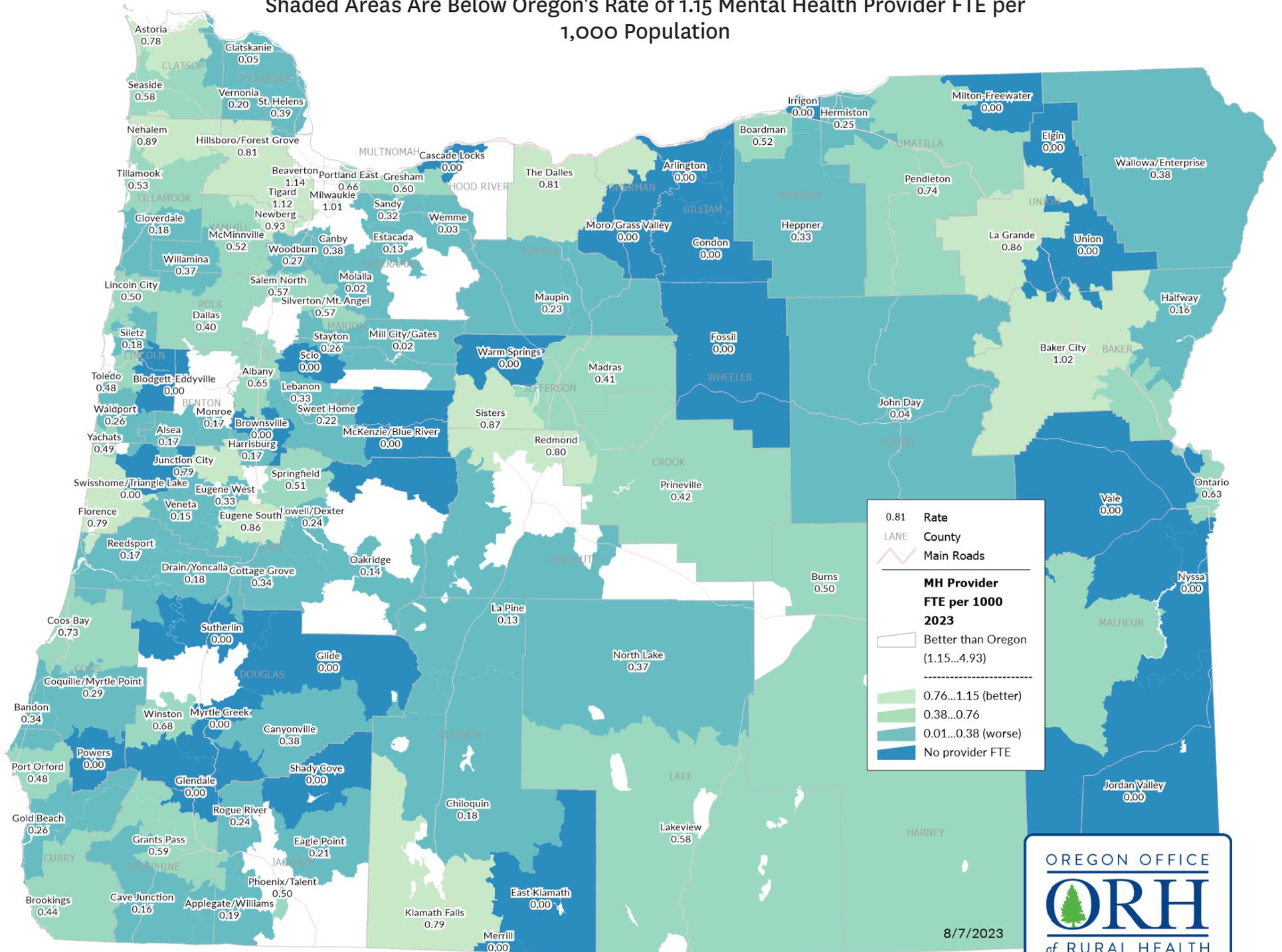
Primary Care Service Areas with no mental health provider FTE include: Arlington, Blodgett-Eddyville, Brownsville, Cascade Locks, Condon, East Klamath, Elgin, Fossil, Glendale, Glide, Irrigon, Jordan Valley, Mckenzie/Blue River, Merrill, Milton-Freewater, Moro/Grass Valley, Myrtle Creek, Nyssa, Powers, Scio, Shady Cove, Sutherlin, Swisshome/Triangle Lake, Union, Vale, and Warm Springs.

Mental Health Providers per 1,000 Population (higher is better)

	2023	2022
Oregon	1.15	1.15
Urban	1.48	1.48
Rural (without Frontier)	0.53	0.54
Rural (including Frontier)	0.52	0.54
Frontier	0.44	0.51

Figure 6.

Shaded Areas Are Below Oregon's Rate of 1.15 Mental Health Provider FTE per 1,000 Population



0.81 Rate

LANE County

Main Roads

MH Provider FTE per 1000 2023

- Better than Oregon (1.15...4.93)
- 0.76...1.15 (better)
- 0.38...0.76
- 0.01...0.38 (worse)
- No provider FTE

8/7/2023



Category Two: Ability to Afford Care

5.) Percent of population between 138% and 200% of the federal poverty level

Description:

The percentage of the local population who are above the Medicaid cutoff of 138% of Federal Poverty Level (FPL) but still too poor to afford health insurance on their own (unless their employer provides health insurance).

Data Source:

American Community Survey (2017-2021)⁹

Methodology:

V5 = 200% FPL – 138% FPL

Results:

Approximately 10% of Oregonians are between 138% and 200% of the Federal Poverty Level, compared to 11% last year. The rate ranges from a low of 5% in Portland NW and Lake Oswego to about a quarter of the population in Burns (24%) and Fossil (24%).

Percent 138-200% Federal Poverty Level (lower is better)

	2023	2022
Oregon	10%	11%
Urban	9%	9%
Rural (without Frontier)	13%	13%
Rural (including Frontier)	13%	13%
Frontier	15%	15%

Highest 138-200% Federal Poverty

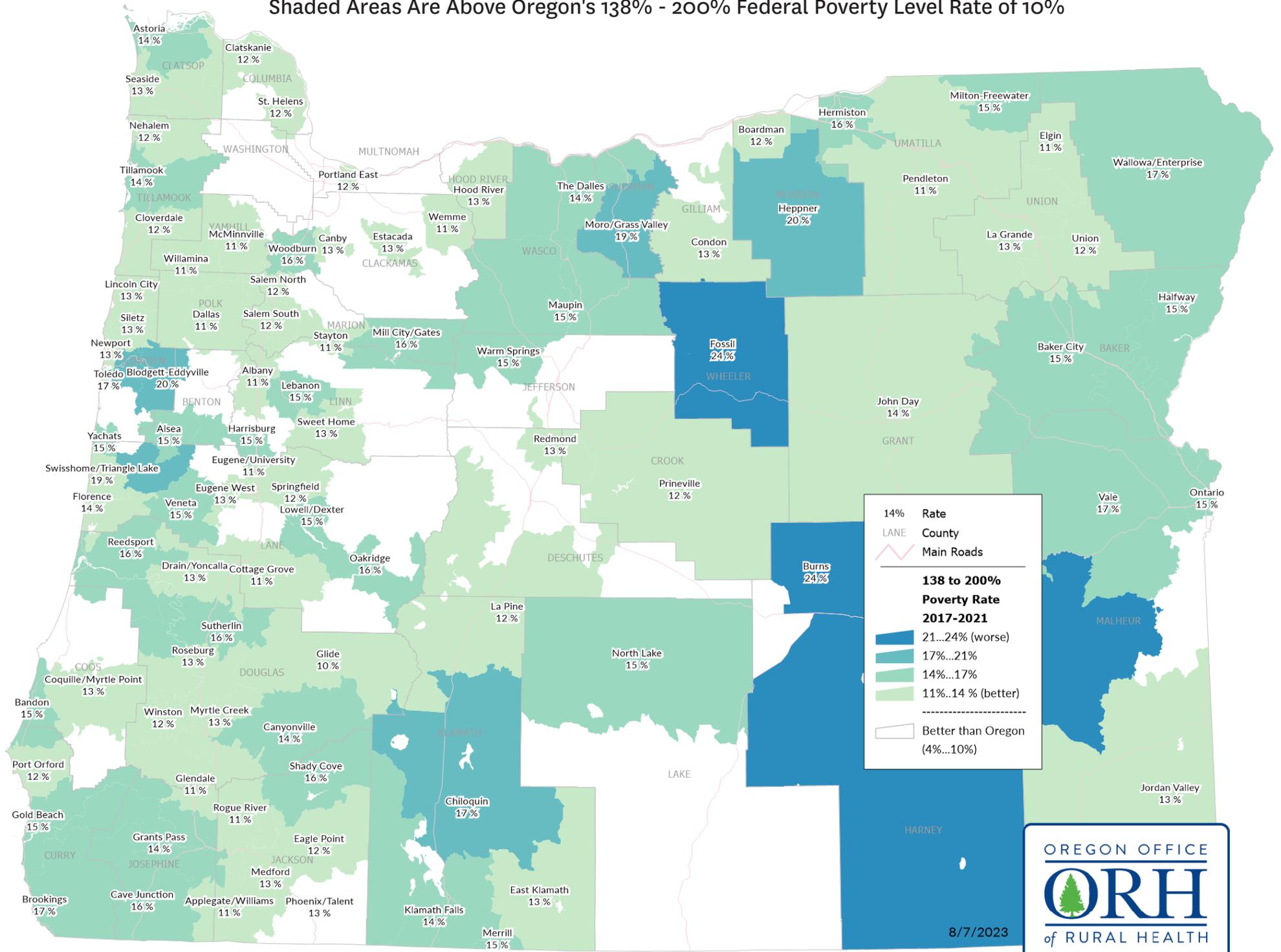
Level Rates	2023	2022
Burns	24%	25%
Fossil	24%	19%
Blodgett-Eddyville	20%	26%
Heppner	20%	21%
Moro/Grass Valley	19%	20%
Swishhome/Triangle Lake	19%	21%

⁹<https://data.census.gov/>.

Because American Community Survey data are based on samples, they are subject to a margin of error, particularly in places with a low population, and are best regarded as estimates.

Figure 7.

Shaded Areas Are Above Oregon's 138% - 200% Federal Poverty Level Rate of 10%



Category Three: Utilization

6.) Inadequate prenatal care rate per 1,000 births

Description:

In Oregon, inadequate prenatal care is defined as care that did not begin until the third trimester or consisted of fewer than five prenatal visits. This is a good indicator of how often required primary care is accessed and utilized, as inadequate prenatal care more often results in higher rates of low-birthweight babies¹⁰, premature births, stillbirths, neonatal death, and infant death¹¹.

Data Source:

Most recent five years (2017-2021) of inadequate prenatal care data by ZIP code from Oregon Health Authority Center for Health Statistics.

Methodology:

$$V6 = \frac{\text{5 years of inadequate prenatal care births}}{\text{5 years of total births}} \times 1000$$

Results:

For 2017-2021, Oregon’s average inadequate prenatal care rate was 60.3 per 1,000 births per year, compared to 60.7 for 2016-2020. Frontier areas have a rate 61% more, at 97.3 per 1000 births. Nine service areas have over twice Oregon’s rate, with Warm Springs (293.1) exceeding it by almost five times.

**Inadequate Prenatal Care per 1,000 Births
(lower is better)**

	2023	2022
Oregon	60.3	60.7
Urban	56.9	57.6
Rural (without Frontier)	63.3	63.2
Rural (including Frontier)	65.7	65.8
Frontier	97.3	100.0

Five Highest Inadequate Prenatal Care Rates

	2023	2022
Warm Springs	293.1	255.4
East Klamath	161.3	142.9
Boardman	154.6	137.7
Reedsport	150.7	145.8
North Lake	142.9	122.2

¹⁰ Oregon Vital Statistics Report 2017, Volume 1. Oregon Health Authority, Public Health Division. 2-10. <https://www.oregon.gov/oha/PH/BIRTHDEATHCERTIFICATES/VITALSTATISTICS/ANNUALREPORTS/VOLUME1/Documents/2017/Chapter2Narrative.pdf>.

¹¹ Partridge S, Balayla J, Holcroft CA, Abenheim HA. Inadequate prenatal care utilization and risks of infant mortality and poor birth outcome: a retrospective analysis of 28,729,765 U.S. deliveries over 8 years. Am J Perinatol. 2012 Nov;29(10):787-93. <https://pubmed.ncbi.nlm.nih.gov/22836820/>.

7.) Ambulatory care sensitive conditions/preventable hospitalizations per 1,000

Description:

Ambulatory Care Sensitive Conditions (ACSC), also known as preventable hospitalizations, are a set of inpatient discharges that may have been avoidable had they been treated earlier with timely and effective primary care. These include common conditions such as asthma, diabetes, hypertension, and pneumonia that shouldn't have resulted in inpatient admissions.

Data Source:

All Oregon (2020-2022) and Washington (2017-2019) hospital inpatient discharges for the latest three available calendar years are from Apprise Health Insights.

Primary diagnoses filtered using the ACSC ICD-10 codes introduced and updated by John Billings.¹²⁻¹³

Local population: Claritas (2023)

Methodology:

$$V7 = \frac{(3 \text{ Years of ACSC Discharges} / 3) \times 1000}{\text{Local population}}$$

Results:

Oregon has a three-year average ACSC rate of 5.8 per 1,000 people, a slight decrease from last year's rate of 6.0. It's important to note that this calculation only includes hospital data from Oregon and Washington. Residents of Oregon who seek treatment in hospitals located in other states are not factored into this calculation. Consequently, communities situated near Oregon's borders, where the closest hospital might be in Idaho or California, face an underrepresentation of their overall hospital utilization. As a result, their ACSC rate is likely higher than what is reported here. This scenario particularly impacts an area like Jordan Valley, which shows no preventable hospitalizations.

While preventable hospitalizations in Oregon overall have been steadily declining for the past three years, five service areas have over twice the state rate, with Warm Springs (22.2) having by far the highest number.

ACSC per 1,000 (lower is better)	2023	2022
Oregon	5.8	6.0
Urban	5.0	5.2
Rural (without Frontier)	7.1	7.5
Rural (including Frontier)	7.1	7.4
Frontier	6.9	7.0

Five Highest ACSC Rates	2023	2022
Warm Springs	22.2	16.1
Reedsport	15.0	18.4
Clatskanie	13.8	14.9
Bandon	12.2	14.1
Coos Bay	11.9	13.0

¹² Billings J, Zeitel L, Lukomnik J, Carey TS, Blank AE, Newman L. Impact of socioeconomic status on hospital use in New York City. Health Aff (Millwood). 1993 Spring;12(1):162-73. <https://pubmed.ncbi.nlm.nih.gov/8509018/>.

¹³ Updated ICD-10 list available at: <https://wagner.nyu.edu/faculty/billings/acs-algorithm>.

8.) Emergency Department Non-Traumatic Dental Visits Per 1,000 Population

Description:

Visits to the Emergency Department (ED) with a principal diagnosis of dental problems that are not a result of trauma for the latest three calendar years. Visits to the ED for non-traumatic oral health conditions are often the result of limited access to a primary dental provider.¹⁴ Often these visits result in opioid and antibiotic prescriptions, rather than definitive dental care.¹⁵

Data Source:

All Oregon hospital inpatient and outpatient ED visits for the latest three calendar years (2020-2022) from Apprise Health Insights.

Principal diagnoses are filtered using the non-traumatic dental codes from the published article: “Emergency Department Visits for Non-traumatic Dental Problems: A Mixed-Methods Study.”¹⁶ ICD-9 codes used in the study were updated to ICD-10.

Local population: Claritas (2023)

Methodology:

$$V8 = \frac{(3 \text{ Years of Non-Traumatic Dental ED Visits} / 3) \times 1000}{\text{Local Population}}$$

Results:

Oregon has a three-year average non-traumatic dental ED visit rate of 3.0 per 1,000 per year, which is slightly lower than last year's result of 3.3. It's important to note that this calculation only includes hospital data from Oregon. Residents of Oregon who seek treatment in hospitals located in other states are not factored into this calculation. Consequently, communities situated near Oregon's borders, where the closest hospital might be in an adjacent state, face an underrepresentation of their hospital utilization. In other words, what is reported here is likely less than their actual rate. This applies to places such as Milton-Freewater (0.2), Jordan Valley (0.6)—which received the two best results—and Brookings (9.4).

Eighteen service areas (all rural or frontier) have over double the state rate of dental ED visits, and Warm Springs (17.7) far exceeds that number.

The amount of statewide non-traumatic dental visits to the ED had been steadily decreasing since 2017 but has crept up in the past couple of years:

2019: 16,130
2020: 12,929
2021: 13,234
2022: 13,752

The significant drop in 2020 was probably driven by the general decline in hospital visits during the COVID-19 pandemic.

¹⁴Sun BC, Chi DL, Schwarz E, Milgrom P, Yagapen A, Malveau S, Chen Z, Chan B, Danner S, Owen E, Morton V, Lowe RA. Emergency department visits for nontraumatic dental problems: a mixed-methods study. *Am J Public Health*. 2015 May;105(5):947-55. <https://pubmed.ncbi.nlm.nih.gov/25790415/>.

¹⁵Ibid.

¹⁶Ibid.

ED Dental Visits per 1,000 (lower is better)	2023	2022
Oregon	3.0	3.3
Urban	2.5	2.7
Rural (without Frontier)	4.2	4.4
Rural (including Frontier)	4.2	4.4
Frontier	4.2	4.4

Highest ED Dental Visit Rates	2023	2022
Warm Springs	17.7	14.3
Brookings	9.4	6.8
Madras	8.5	8.2
Cottage Grove	8.4	8.8
Reedsport	8.2	8.0
Gold Beach	8.2	8.0

9.) Emergency Department Mental Health/Substance Use Visits Per 1,000 Population

Description:

Visits to the Emergency Department (ED) with a principal diagnosis of mood disorders, anxiety disorders, alcohol/drug use, psychotic and personality disorders, suicide attempts, and suicidal ideations for the latest three calendar years. Visits to the ED for mental health/substance use (MHSU) conditions are potentially preventable with adequate primary care.¹⁷ They are more than twice as likely to result in a hospital admission¹⁸, and the rate of MHSU ED visits in the past few years is highest among low-income populations.¹⁹ In the Mental Health America (MHA) 2023 ranking, Oregon has the highest prevalence of adult and youth mental illness and substance use issues of all 50 states and the District of Columbia.²⁰

Data Source:

All Oregon hospital inpatient and outpatient ED visits for the latest three calendar years (2020-2022) from Apprise Health Insights.

Principal diagnoses are filtered for the Clinical Classification Software (CCS) diagnosis groups used in the study “Mental Health and Substance Abuse-Related Emergency Department Visits among Adults, 2007”²¹ from the Agency for Healthcare Research and Quality (AHRQ). In 2021, CCS was replaced by Clinical Classification System Refined (CCSR), and the equivalent codes were used in this filter (Mental, Behavioral and Neurodevelopmental Disorders).

Local population: Claritas (2023)

Methodology:

$$V_9 = \frac{(3 \text{ Years of ED Mental Health/Substance Use Visits} / 3) \times 1000}{\text{Local Population}}$$

Results:

Oregon’s current three-year average mental health/substance use ED visit rate is 16.3 per 1,000 population per year, which is lower than last year’s rate of 17.6. Only Oregon hospital data are collected, so Oregon residents who go to hospitals in other states are not counted in this calculation. For a few communities near the Oregon border where the closest hospital is in an adjacent state, this means that only part of their hospital usage is captured, and is most likely higher than reported here. This applies to places like Milton-Freewater (2.0), Jordan Valley (2.5)—the two best results—and Brookings (19.7).

This is the only variable where rural areas (15.7) as a whole perform better than urban areas (17.4), although the worst performing service area, Warm Springs (74.5), is rural and over four times the state’s rate. Unfortunately, the rates for Warm Springs do contain a caveat: 2023 is the first year that the Claritas population data utilizes the 2020 Decennial Census numbers, and it is believed that the Census numbers for the Warm Springs reservation are an undercount. An undercount in the population, which is used as the denominator in calculating rates, would make the rate increase even if the numerator remained the same from year to year. This applies to any rate that uses the Warm Springs population as a denominator.

¹⁷Rockett IRH, Putnam SL, Jia H, Chang C, Smith GS. Unmet substance abuse treatment need, health services utilization, and cost: a population-based emergency department study. *Annals of Emergency Medicine*. 2005; 45(2):118–27.

¹⁸Owens PL, Mutter R, Stocks C. Mental Health and Substance Abuse-Related Emergency Department Visits Among Adults, 2007. HCUP Statistical Brief #92. July 2010. Agency for Healthcare Research and Quality, Rockville, MD.

¹⁹Weiss AJ, Barrett ML, Heslin KC, Stocks C. Trends in Emergency Department Visits Involving Mental and Substance Use Disorders, 2006–2013. HCUP Statistical Brief #216. 2016. Agency for Healthcare Research and Quality, Rockville, MD.

²⁰<https://mhanational.org/issues/2023/ranking-states>.

²¹Owens PL, et al. Mental Health and Substance Abuse-Related Emergency Department Visits Among Adults, 2007.

The number of statewide mental health/substance use visits to the ED had been increasing for years but declined in 2020, most likely due to the general drop in hospital visits caused by the COVID-19 pandemic. It has fallen again in 2022 to its lowest number in years.

2018: 78,346
 2019: 78,851
 2020: 72,611
 2021: 74,900
 2022: 69,144

However, the number of ED visits just for CCSR MBD012: Suicidal ideation/attempt/intentional self-harm did not show the same decline in 2020 and is currently at its highest number in years:

2018: 11,793
 2019: 11,679
 2020: 11,668
 2021: 13,077
 2022: 13,957

**ED MHSU Visits per 1,000
 (lower is better)**

	2023	2022
Oregon	16.3	17.6
Urban	17.4	18.2
Rural (without Frontier)	15.9	16.5
Rural (including Frontier)	15.7	16.3
Frontier	13.6	14.3

Five Highest ED MHSU Rates

	2023	2022
Warm Springs	74.5	50.5
Portland NW	27.8	32.6
Eugene/University	26.0	28.0
Seaside	25.5	27.0
Coos Bay	25.3	27.5

Total Scores

Methodology:

A score of between 0 (worst) and 10 (best) is calculated for each of the nine variables, based on the variance of the lowest and highest numbers from the mean of each variable. The scores are added together to produce a final Unmet Need Total Score (with 90 being the best possible result):

$$V1 + V2 + V3 + V4 + V5 + V6 + V7 + V8 + V9 = \text{Unmet Need Total Score (0 to 90)}$$

Results:

The highest (best) scoring primary care service area is Portland SW (78 out of 90), and the highest-scoring rural service area is Hood River (66). Warm Springs has the lowest (worst) score of 22, followed by East Klamath (26) and Swisshome/Triangle Lake (28). Rural and frontier areas comprise all but two of the 70 service areas that fall below the mean score of 49.1 for the state. However, of the 10 highest-scoring service areas, only one is rural. See the map and list of scores starting on page 6 of this report.

Warm Springs was hit hard by the COVID-19 pandemic. Hospitalizations caused this service area to have the worst score (0 out of 10) for both mental health and dental health ED visits, as well as ACSC/preventable hospitalizations. This service area also has the worst score (0) for inadequate prenatal health care, with a rate many times the state rate. As mentioned above, please keep in mind that the 2020 Decennial Census population for Warm Springs is most likely an undercount, which could make its utilization rates look even worse than they actually are.

Another caveat about the ranking is that all three of the hospital utilization variables (ACSC, ED Dental, and ED Mental) utilize data from Oregon and Washington hospitals only (ACSC) or Oregon hospitals only (ED Dental and Mental). Three rural service areas—Brookings (46), Jordan Valley (38), and Milton-Freewater (45)—mainly use hospitals that are located in adjacent states. As a result, their visit numbers for these variables are incomplete and may give the impression that these communities have better health care service utilization than is actually the case. Their total scores and rankings should be interpreted with this in mind.

On a positive note, a couple of very low-scoring areas from past years have improved their rank significantly. Cascade Locks, which had the lowest score in 2020 (25), is now ranked 23rd, with a score of 39. It has above average inadequate prenatal care rate and ED dental and mental health visits despite having no providers in the area. Powers, which had the lowest score in 2019 (27), is now ranked 13th, with a score of 36. It also has above-average inadequate prenatal care and ED mental health visit rates despite having no providers. Both are still considered to be Unmet Need Areas, though, and would likely benefit more from other interventions and availability of providers.

Mean (Average) Score by Geographic Area	2023	2022
Oregon	49.1	49.4
Urban	61.6	62.1
Rural (without Frontier)	46.1	45.9
Rural (including Frontier)	46.2	46.4
Frontier	46.9	48.9

Areas With the Lowest Total Scores	2023	2022
Warm Springs	22	18
East Klamath	26	24
Swisshome/Triangle Lake	28	27
Glendale	29	27
North Lake	32	40
Drain/Yoncalla	32	31
Merrill	32	33
Port Orford	34	26
Cave Junction	35	33
Chiloquin	35	32



Get in touch

1.866.674.4376
503.494.4450
ruralweb@ohsu.edu
www.ohsu.edu/orh

MAILING ADDRESS

Oregon Office of Rural Health
Oregon Health & Science University
3181 SW Sam Jackson Park Rd., L 593
Portland, OR 97239

ON SOCIAL

 @ORHruralOregon
 /Oregon-Office-of-Rural-Health
 /oregon_office_of_rural_health

The Oregon Office of Rural Health has been a partner of Oregon Health & Science University since 1989.

