

Oregon Areas of Unmet Health Care Need Report  
December 2022

# 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 stakeholders to advocate for unmet needs in their community.

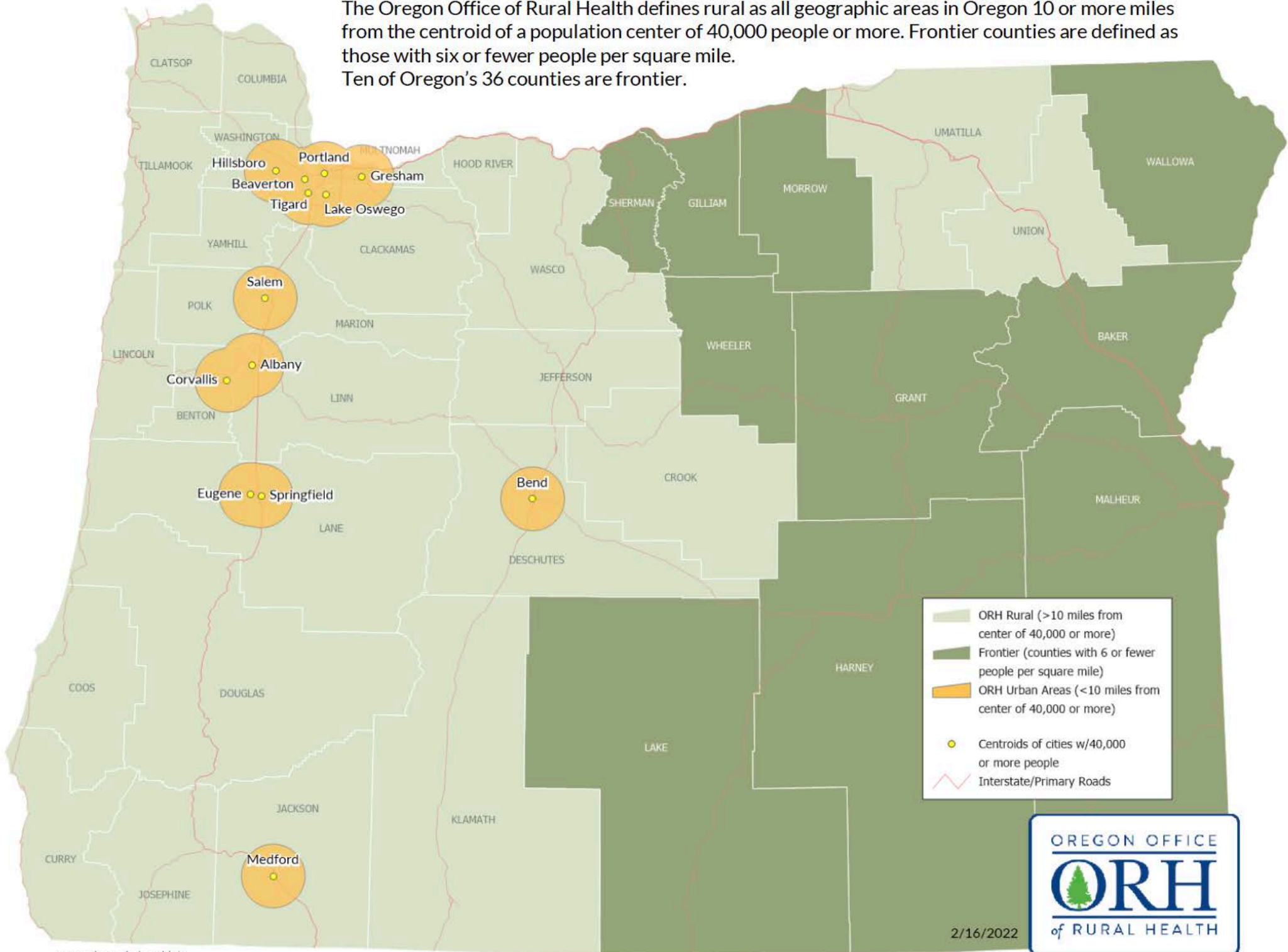
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We welcome your feedback. If you have any questions or suggestions about this report, please contact Emerson Ong at [onge@ohsu.edu](mailto:onge@ohsu.edu).

# 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.



## 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 2022, scores in Oregon ranged from 18 (worst) to 79 (best). In 2021, it ranged from 24 to 79. Warm Springs had the lowest score in both years and lost points this year because the clinic lost their PCPCH status.

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

<b>Mean (Average) Score by Geographic Area</b>	<b>2022</b>	<b>2021</b>	<b>2020</b>
Oregon	49.4	49.4	49.3
Urban	62.1	62.6	62.1
Rural (without Frontier)	45.9	46.0	45.9
Rural (including Frontier)	46.4	46.4	46.4
Frontier	48.9	48.0	48.4

The mean (average) score for Oregon overall is 49.4, which is the same as last year’s average of 49.4. Sixty-two of the 128 service areas fall below that score. The number of service areas by geographic type with scores below the Oregon average include:

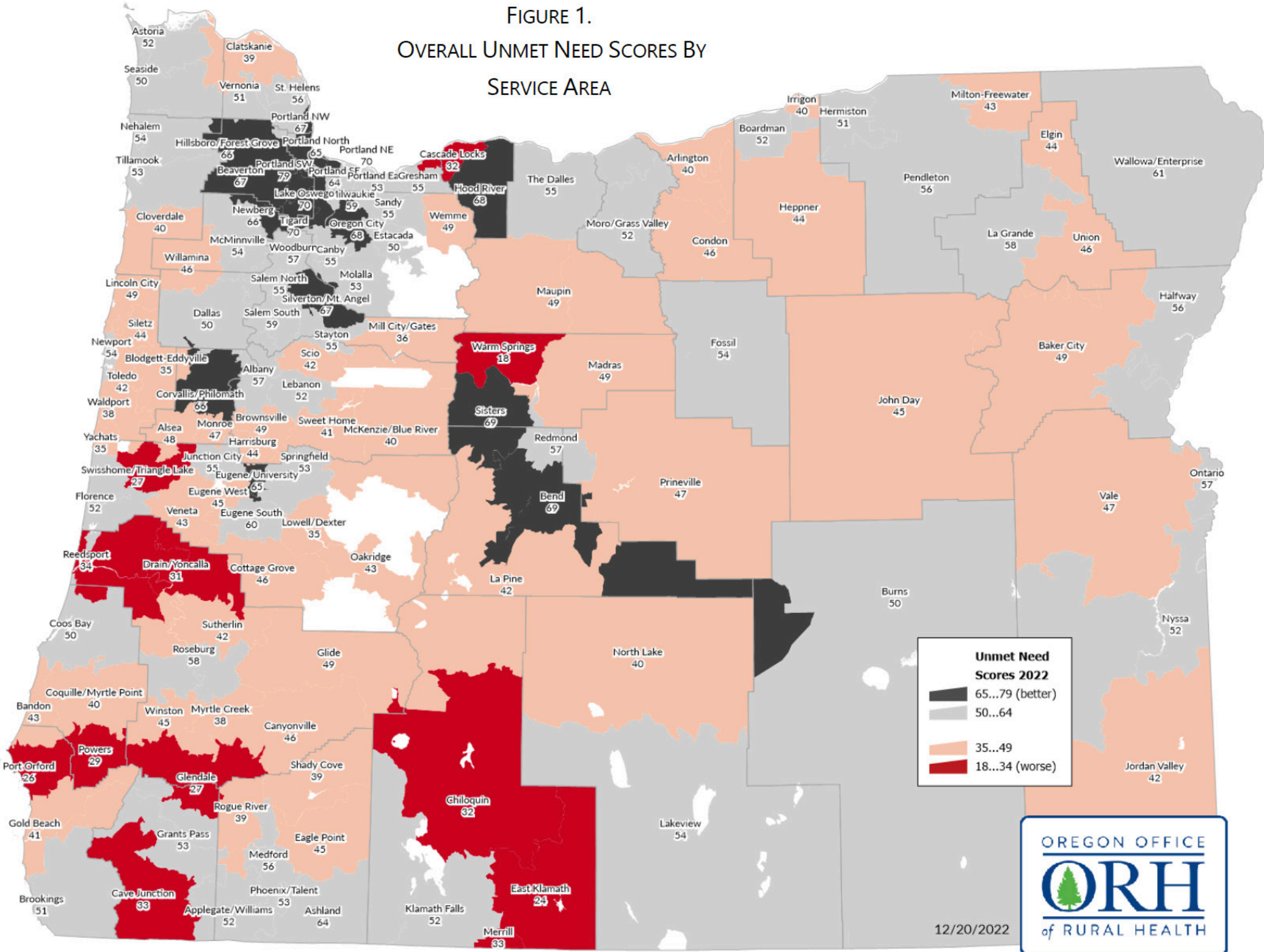
Urban:	1 out of 24 (4%)
Rural (without Frontier):	52 out of 86 (60%)
Rural (including Frontier):	61 out of 104 (59%)
Frontier:	9 out of 18 (50%)

<b>Greatest Unmet Need Areas</b>			<b>Least Unmet Need Areas</b>		
	<b>2022</b>	<b>2021</b>		<b>2022</b>	<b>2021</b>
Warm Springs	18	24	Portland SW	79	79
East Klamath	24	26	Tigard	70	71
Port Orford	26	26	Portland NE	70	71
Swishhome/ Triangle Lake	27	27	Lake Oswego	70	71
Glendale	27	27	Sisters	69	70
Powers	29	32	Bend	69	69
Drain/Yoncalla	31	29	Oregon City	68	69
Chiloquin	32	29	Hood River	68	68
Cascade Locks	32	27	Silverton/Mt Angel	67	69
Merrill	33	35	Beaverton	67	69
Cave Junction	33	36	Portland NW	67	66

# Highlights

1. The average travel time in Oregon to the nearest Patient Centered Primary Care Home (PCPCH) is 12.2 minutes. **Twenty-two service areas (all rural or frontier) do not have a PCPCH, and the drive times for these areas average 24 minutes.** (Pages 13-14)
2. The ratio of estimated primary care visits able to be met by existing providers in Oregon is 1.2. Rural and frontier service areas have a lower average ratio (0.9), meaning there is greater demand than supply. **Ten primary care service areas have zero primary care provider FTE, and they are all rural or frontier.** (Pages 15-17)
3. Oregon has 0.5 dentist patient care FTE per 1,000 people. The average in rural and frontier areas is 0.3 FTE. **All 25 primary care service areas that have zero dentist FTE are rural or frontier.** (Pages 18-19)
4. There are 1.15 mental health care provider FTE per 1,000 people in Oregon. The average in rural and frontier is less than half of that at 0.54 FTE. **All 20 primary care service areas that have zero mental health provider FTE are rural or frontier.** (Pages 20-21)
5. For 2016-2020, the percentage of the population that is above the Medicaid cut-off of 138% Federal Poverty Level (FPL) but still below 200% of the FPL (and therefore unlikely able to afford health insurance unless provided by an employer) is 11% in Oregon. **Swishhome/Triangle Lake (21%), Heppner (21%), Burns (25%), and Blodgett-Eddyville (26%) have rates almost double that or more.** (Pages 22-23)
6. Oregon's five-year (2016-2020) average inadequate prenatal care rate is 60.7 per 1,000 births per year. **The average rate in frontier service areas is 100 per 1,000, or 10% of all births. Warm Springs (255.4) has over quadruple the state rate, with another nine service areas (all rural or frontier) that are over double the state rate.** (Pages 24-25)
7. Oregon's three-year (2019-2021) average preventable hospitalization/ACSC rate is 6.0 per 1,000 people per year. Rural and frontier service areas average 7.4 per 1,000. **Reedsport (18.4) has triple the state's ACSC rate and another seven service areas (all rural or frontier) have over double the state rate.** (Pages 26-27)
8. Oregon has a three-year (2019-2021) average non-traumatic dental emergency department (ED) visit rate of 3.3 per 1,000 people per year. The rate in rural Oregon is 4.4 per 1,000. **Fifteen service areas (all rural or frontier) have over double the state's dental ED visit rate, with Warm Springs (14.3) having over quadruple the state rate.** (Pages 28-30)
9. Oregon has a three-year (2019-2021) average mental health/substance use ED visit rate of 17.6 per 1,000 people per year. This is the only variable where rural and frontier (16.3), on average, do better than urban areas (18.2). **However, the worst performing service area, Warm Springs (50.5), is rural and has almost triple the state rate.** (Pages 31-33)
10. Oregon has an average Unmet Need Score of 49.4 out of 90. **All but one of the 62 service areas that have a score worse than this are rural or frontier.** (Page 34)

FIGURE 1.  
OVERALL UNMET NEED SCORES BY  
SERVICE AREA



**Unmet Need Scores 2022**

- 65...79 (better)
- 50...64
- 35...49
- 18...34 (worse)



12/20/2022

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 in 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	18	18	2.05	0.06	0.15	17%	255.4	16.1	14.3	50.5
East Klamath	Rural	24	32	0.00	0.00	0.00	13%	142.9	9.0	5.9	17.0
Port Orford	Rural	26	31	0.44	0.00	0.00	15%	92.0	11.3	6.9	15.3
Swishhome/ Triangle Lake	Rural	27	27	0.00	0.00	0.00	21%	95.2	4.8	4.6	13.3
Glendale	Rural	27	22	0.00	0.00	0.00	14%	113.7	8.4	5.2	17.0
Powers	Rural	29	30	0.00	0.00	0.00	13%	20.4	13.0	4.1	15.3
Drain/Yoncalla	Rural	31	21	0.22	0.00	0.17	14%	65.0	8.6	6.1	13.2
Chiloquin	Rural	32	30	0.67	0.17	0.15	20%	106.3	8.9	4.7	15.1
Cascade Locks	Rural	32	21	0.00	0.00	0.00	12%	27.4	9.3	4.3	19.8
Merrill	Rural	33	25	0.00	0.00	0.00	13%	72.5	5.7	3.9	11.4
Cave Junction	Rural	33	10	0.47	0.00	0.18	19%	109.9	10.9	4.2	19.6
Reedsport	Rural	34	10	0.75	0.33	0.18	17%	145.8	18.4	8.0	25.3
Blodgett-Eddyville	Rural	35	13	0.00	0.00	0.00	26%	14.9	9.1	2.4	8.8
Yachats	Rural	35	12	0.30	0.05	0.53	16%	125.0	11.6	3.5	11.6
Lowell/Dexter	Rural	35	22	0.15	0.00	0.30	14%	53.1	7.7	4.2	11.7
Mill City/Gates	Rural	36	10	0.38	0.13	0.02	19%	101.1	8.4	5.3	15.3
Myrtle Creek	Rural	38	10	0.36	0.00	0.02	12%	59.7	6.5	6.0	16.6
Waldport	Rural	38	10	0.33	0.12	0.27	10%	102.9	9.4	6.7	17.8
Clatskanie	Rural	39	10	0.10	0.26	0.04	12%	74.8	14.9	3.8	12.5
Shady Cove	Rural	39	10	0.23	0.33	0.00	12%	116.9	11.4	4.6	16.2
Rogue River	Rural	39	10	0.28	0.04	0.16	11%	81.5	8.2	3.7	16.5
Arlington	Frontier	40	25	0.93	0.00	0.00	11%	102.6	9.4	1.8	9.0
North Lake	Frontier	40	10	0.31	0.00	0.28	16%	122.2	10.9	1.7	11.3
Irrigon	Frontier	40	10	0.41	0.00	0.00	10%	125.0	8.5	4.5	12.4
Cloverdale	Rural	40	10	0.50	0.14	0.05	15%	71.0	6.4	4.7	14.8
McKenzie/ Blue River	Rural	40	10	0.36	0.00	0.05	6%	117.6	9.8	5.3	15.5
Coquille/Myrtle Point	Rural	40	10	0.61	0.18	0.25	12%	79.1	13.6	5.6	19.5
Sweet Home	Rural	41	10	0.47	0.09	0.24	14%	57.0	10.2	5.0	14.3
Gold Beach	Rural	41	10	1.32	0.14	0.43	13%	139.2	10.1	8.0	24.6
Jordan Valley	Frontier	42	75	0.00	0.00	0.00	11%	66.7	0.0	0.5	2.7



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Scio	Rural	42	10	0.23	0.02	0.00	13%	46.3	6.1	3.4	8.8
La Pine	Rural	42	10	0.64	0.10	0.11	12%	77.6	10.5	3.5	13.6
Sutherlin	Rural	42	10	0.29	0.11	0.07	17%	43.1	6.0	3.7	15.3
Toledo	Rural	42	10	0.45	0.17	0.58	18%	55.7	9.9	7.3	18.2
Milton-Freewater	Rural	43	16	0.12	0.28	0.02	17%	86.6	9.0	0.2	1.7
Veneta	Rural	43	10	0.19	0.16	0.15	19%	62.7	7.1	2.6	11.5
Oakridge	Rural	43	10	0.48	0.00	0.30	11%	86.1	9.2	3.6	15.1
Bandon	Rural	43	10	1.48	0.18	0.36	20%	55.8	14.1	5.5	16.8
Heppner	Frontier	44	10	0.62	0.13	0.35	21%	67.1	11.0	3.4	7.2
Elgin	Rural	44	10	0.76	0.10	0.00	12%	80.0	6.8	6.0	8.7
Harrisburg	Rural	44	10	0.00	0.05	0.16	10%	56.1	5.0	3.5	11.9
Siletz	Rural	44	13	1.20	0.69	0.36	13%	83.3	9.4	8.2	14.3
Eagle Point	Rural	45	10	0.21	0.12	0.17	11%	50.3	7.6	3.1	12.9
John Day	Frontier	45	10	1.26	0.27	0.03	13%	80.6	11.3	5.6	13.0
Winston	Rural	45	10	0.34	0.13	0.72	12%	47.8	9.1	6.1	17.4
Eugene West	Urban	45	10	0.69	0.21	0.37	13%	69.5	8.3	4.6	23.3
Condon	Frontier	46	22	0.74	0.26	0.00	13%	100.0	5.1	2.2	7.0
Union	Rural	46	10	0.18	0.07	0.18	12%	51.7	6.5	3.2	8.1
Willamina	Rural	46	10	0.47	0.24	0.29	12%	66.9	8.2	5.5	17.2
Canyonville	Rural	46	10	0.99	0.20	0.31	13%	76.3	10.5	4.2	18.9
Cottage Grove	Rural	46	10	0.74	0.26	0.44	11%	72.6	8.5	8.8	21.3
Vale	Frontier	47	10	0.46	0.13	0.00	16%	96.3	2.1	2.4	8.4
Monroe	Rural	47	10	0.34	0.00	0.18	15%	36.2	6.5	2.4	9.2
Prineville	Rural	47	10	0.65	0.26	0.59	13%	58.9	7.6	8.0	20.0
Alsea	Rural	48	10	0.61	0.00	0.16	12%	75.5	5.5	1.7	8.8
Maupin	Rural	49	10	0.99	0.00	0.22	14%	69.0	8.0	2.9	5.9
Wemme	Rural	49	10	0.29	0.19	0.02	14%	61.2	4.1	2.0	9.2
Brownsville	Rural	49	10	0.14	0.28	0.00	12%	39.7	6.5	2.6	9.5
Glide	Rural	49	10	0.00	0.11	0.00	7%	34.8	4.0	4.5	12.5
Baker City	Frontier	49	10	1.12	0.20	0.97	14%	73.3	7.2	7.6	17.3
Lincoln City	Rural	49	10	1.05	0.26	0.85	15%	58.3	9.3	7.5	20.4
Madras	Rural	49	10	0.95	0.20	0.50	9%	88.4	7.8	8.2	21.5
Oregon		49.4	12.2	1.21	0.49	1.15	11%	60.7	6.0	3.3	17.6
Estacada	Rural	50	10	0.37	0.13	0.24	8%	60.9	6.2	2.7	11.4
Dallas	Rural	50	10	0.42	0.20	0.37	12%	38.1	5.5	4.5	13.9
Burns	Frontier	50	10	1.14	0.24	0.73	25%	51.5	8.0	4.5	15.2

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
Seaside	Rural	50	10	1.17	0.25	0.62	11%	69.9	9.5	5.7	27.0
Coos Bay	Rural	50	10	1.39	0.37	0.58	11%	63.3	13.0	6.9	27.5
Hermiston	Rural	51	10	1.16	0.35	0.33	16%	94.5	6.2	3.9	13.0
Brookings	Rural	51	10	1.02	0.46	0.56	18%	83.8	7.0	6.8	15.4
Vernonia	Rural	51	10	0.59	0.25	0.21	9%	74.1	7.3	2.4	16.4
Moro/Grass Valley	Frontier	52	10	0.81	0.00	0.77	20%	0.0	7.4	5.5	6.3
Nyssa	Frontier	52	10	0.47	0.46	0.00	12%	126.1	2.5	2.4	9.9
Applegate/Williams	Rural	52	11	0.16	0.32	0.32	7%	62.8	6.2	2.9	10.8
Boardman	Frontier	52	10	1.07	0.00	0.86	11%	137.7	4.9	2.2	13.4
Lebanon	Rural	52	10	1.03	0.25	0.39	14%	39.4	8.2	4.4	15.7
Florence	Rural	52	10	0.86	0.38	0.68	13%	92.8	8.4	4.7	16.1
Astoria	Rural	52	10	1.19	0.40	0.96	14%	54.5	9.4	4.5	21.3
Klamath Falls	Rural	52	10	1.50	0.50	0.69	13%	91.1	7.5	7.0	23.8
Molalla	Rural	53	10	0.36	0.34	0.07	9%	53.4	5.4	2.5	13.1
Phoenix/Talent	Urban	53	10	0.48	0.19	0.62	12%	56.5	5.4	3.0	15.2
Tillamook	Rural	53	10	1.40	0.42	0.66	18%	62.2	8.9	4.5	19.6
Springfield	Urban	53	10	1.80	0.29	0.43	12%	74.7	8.6	5.6	20.5
Portland East	Urban	53	10	1.06	0.46	0.68	13%	99.6	7.0	4.1	21.1
Grants Pass	Rural	53	10	1.14	0.58	0.67	13%	69.1	9.3	4.0	21.6
Fossil	Frontier	54	10	1.65	0.25	0.00	19%	35.1	9.5	1.2	4.6
Nehalem	Rural	54	10	0.93	0.00	0.62	11%	92.4	7.1	2.2	10.0
Lakeview	Frontier	54	10	1.77	0.53	0.68	11%	90.2	10.5	6.1	18.1
McMinnville	Rural	54	10	0.83	0.34	0.56	11%	53.6	7.0	4.6	20.1
Newport	Rural	54	10	1.48	0.73	1.46	11%	61.4	9.5	7.9	23.5
Canby	Rural	55	10	0.62	0.38	0.36	14%	59.4	4.5	1.9	10.3
Sandy	Rural	55	10	0.24	0.22	0.27	7%	55.4	5.4	2.1	12.5
Junction City	Rural	55	10	0.30	0.26	0.87	9%	67.7	7.1	3.1	13.2
Stayton	Rural	55	10	1.47	0.29	0.16	9%	39.9	7.6	5.0	14.6
Salem North	Urban	55	10	0.76	0.43	0.56	13%	51.0	6.3	2.6	14.7
The Dalles	Rural	55	10	1.40	0.46	0.80	13%	58.3	7.5	5.3	17.1
Gresham	Urban	55	10	0.83	0.49	0.55	12%	73.8	5.7	3.2	17.9
Halfway	Frontier	56	10	0.89	0.00	0.11	14%	11.9	5.1	1.6	5.7
St. Helens	Rural	56	10	0.52	0.28	0.39	12%	48.9	7.0	1.7	12.0
Pendleton	Rural	56	10	1.29	0.43	0.77	11%	86.6	6.7	4.5	14.6
Medford	Urban	56	10	1.73	0.63	1.28	12%	65.6	8.2	4.5	23.6
Woodburn	Rural	57	10	0.73	0.22	0.41	17%	50.4	4.3	1.7	9.9

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
Albany	Urban	57	10	0.79	0.36	0.64	11%	44.6	5.6	3.9	14.2
Redmond	Rural	57	10	0.64	0.46	0.72	12%	46.5	5.3	3.3	14.8
Ontario	Frontier	57	10	2.21	0.67	0.67	17%	147.9	3.5	4.9	19.6
La Grande	Rural	58	10	1.64	0.52	0.91	12%	75.1	6.6	5.3	12.2
Roseburg	Rural	58	10	1.81	0.57	1.24	15%	33.8	6.4	5.7	22.7
Salem South	Urban	59	10	1.59	0.64	1.74	11%	56.4	7.1	3.4	20.2
Milwaukie	Urban	59	10	0.56	0.52	0.98	9%	54.7	5.6	3.6	21.0
Eugene South	Urban	60	10	0.35	0.43	0.82	8%	61.9	4.7	2.3	12.5
Wallowa/Enterprise	Frontier	61	10	2.19	0.47	0.71	15%	19.9	13.2	2.5	13.1
Portland SE	Urban	64	10	0.55	0.48	2.13	8%	44.4	4.0	1.7	16.7
Ashland	Rural	64	10	1.38	0.47	1.86	9%	67.5	3.8	3.2	18.8
Portland North	Urban	65	10	2.12	0.33	1.81	7%	59.0	5.0	2.6	22.5
Eugene/University Hillsboro/Forest Grove	Urban	65	10	2.47	0.97	4.59	10%	69.0	6.2	3.5	28.0
Newberg	Rural	66	10	1.32	0.50	0.86	10%	47.1	3.9	2.0	13.6
Corvallis/Philomath	Urban	66	10	1.29	0.35	1.07	9%	40.5	4.1	3.1	14.3
Silverton/Mt. Angel	Urban	66	10	1.48	0.53	1.48	9%	41.6	3.7	1.8	15.8
Beaverton	Rural	67	10	1.45	0.28	0.58	8%	37.2	5.1	2.1	10.2
Portland NW	Urban	67	10	1.40	0.64	1.10	8%	47.2	3.7	1.6	15.4
Hood River	Urban	67	10	1.58	0.47	1.69	5%	44.8	4.4	2.0	32.6
Oregon City	Rural	68	10	2.09	0.81	1.22	13%	49.6	4.3	2.0	9.8
Sisters	Urban	68	10	2.32	0.73	1.59	7%	64.7	4.5	2.6	16.1
Bend	Rural	69	10	0.90	0.38	0.69	8%	40.0	4.4	1.2	9.5
Lake Oswego	Urban	69	10	1.59	0.70	1.76	9%	41.3	3.8	2.1	14.1
Tigard	Urban	70	10	0.84	0.78	1.38	5%	39.5	3.2	1.0	10.3
Portland NE	Urban	70	10	1.24	0.69	0.99	7%	41.4	3.6	1.5	12.9
Portland SW	Urban	70	10	2.22	0.74	3.09	8%	47.6	5.0	2.1	19.4
Portland SW	Urban	79	10	2.91	1.18	5.52	6%	37.3	3.9	1.1	20.1

Download this as an Excel spreadsheet from our website: [www.ohsu.edu/designations](http://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 homogenous 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:<sup>1</sup>

- 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 financially capable of supporting at least a single midlevel 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 + Frontier<sup>2</sup>: 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](#).

<sup>1</sup> 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).

<sup>2</sup> 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 stakeholder 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

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

#### Oregon Health Authority

Jackie Fabrick, Behavioral Health Policy Analyst  
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<sup>3</sup>. 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.

V<sub>1</sub> = Drive time in minutes

**Results:**

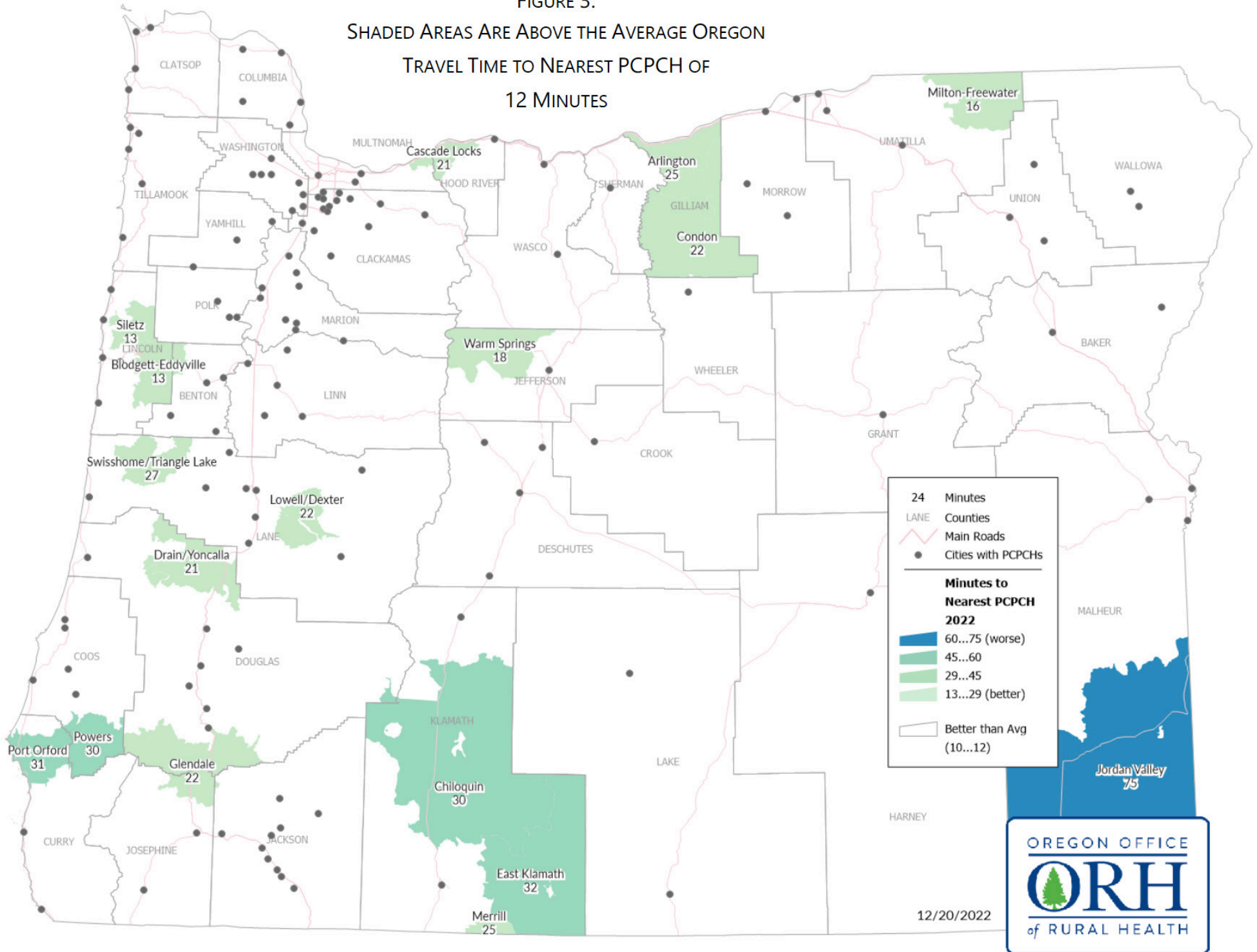
Average drive time to the nearest PCPCH for all 128 Primary Care Service Areas in Oregon is 12.2, which is slightly less than last year’s average of 13.1 minutes. Warm Springs lost their PCPCH designation in the past year, while Florence, Maupin, Oakridge, and Veneta gained one. Twenty-two service areas, all rural or frontier, do not have a PCPCH, and drive times average 24 minutes to the nearest PCPCH for these areas.

<b>Travel Time to Nearest PCPCH in Minutes</b>		
<b>(lower is better)</b>	<b>2022</b>	<b>2021</b>
Oregon	12.2	13.1
Urban	10	10
Rural (without Frontier)	12.1	13.6
Rural (including Frontier)	12.7	13.8
Frontier	15.1	15.1

<b>Five Longest Travel Times to PCPCH</b>		
<b>in Minutes</b>	<b>2022</b>	<b>2021</b>
Jordan Valley	75	75
East Klamath	32	33
Port Orford	31	30
Powers	30	29
Chiloquin	30	30

<sup>3</sup> 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 MINUTES



12/20/2022



## 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 Sources:

#### Estimated Primary Care Visits Provided:

Patient care FTE for all the providers listed above are from the Oregon Health Authority's (OHA) Health Care Workforce Reporting Program Database: licensure surveys<sup>4</sup> using both primary and secondary work locations. The physician/PA and NP surveys include renewals as of January 2022. Only providers renewing their licenses are required to fill out the surveys, so first-time licensees are not included in the FTE count.

Estimated number of visits provided per year by primary care specialty is the average between the 2020 Health Resources and Services Administration (HRSA) Federally Qualified Health Center (FQHC) National<sup>5</sup> Staffing and Utilization numbers and the Oregon<sup>6</sup> 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 (2018)<sup>7</sup>.

Local population data by ZIP code: Claritas (2022)

### Methodology:

- a) Estimated Number of Primary Care Visits Provided Per Year =  
([FTE of Family Med/Practitioners] x 2392) +  
([FTE of General Practitioners] x 2360)  
([FTE of Internists] x 2197) +  
([FTE of Obstetrician-gynecologists] x 2253) +  
([FTE of Pediatricians] x 2041) +  
([FTE of Primary care nurse practitioners] x 2033) +  
([FTE of Primary care physician assistants] x 2305)

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<sup>4</sup> <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.

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

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

<sup>7</sup> [https://www.cdc.gov/nchs/data/ahcd/namcs\\_summary/2018-namcs-web-tables-508.pdf](https://www.cdc.gov/nchs/data/ahcd/namcs_summary/2018-namcs-web-tables-508.pdf)



b) Estimated Number of Primary Care Visits Needed =  $0.8^8 \times$   
 (([Female Population 0-14] x 1.7) +  
 ([Female Population 15-24] x 1.9) +  
 ([Female Population 25-44] x 2.6) +  
 ([Female Population 45-64] x 3.5) +  
 ([Female Population 65-74] x 5.1) +  
 ([Female Population 75+] x 6.2) +  
 ([Male Population 0-14] x 2.0) +  
 ([Male Population 15-24] x 0.9) +  
 ([Male Population 25-44] x 1.1) +  
 ([Male Population 45-64] x 2.6) +  
 ([Male Population 65-74] x 4.6) +  
 ([Male Population 75+] x 6.8))

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:

$$V_2 = \frac{\text{Estimated Visits Provided}}{\text{Estimated Primary Care Visits Needed}}$$

**Results:**

A ratio of 1.00 means that supply should be equal to demand, if access and affordability were the same for everyone. A lower ratio means more demand. A higher ratio means more supply. For Oregon, this ratio of estimated primary care visits able to be met is 1.21, which means that if providers were equally distributed across the state, there should be enough primary care capacity to meet patient needs. Rural and frontier service areas, however, have a lower ratio of 0.91. There are 10 service areas, all rural, that do not have any primary care provider FTE, while the highest ratios are located in urban areas: Portland SW (2.9), Eugene/University (2.5), and Oregon City (2.3).

Primary Care Service Areas with no primary care provider FTE include:

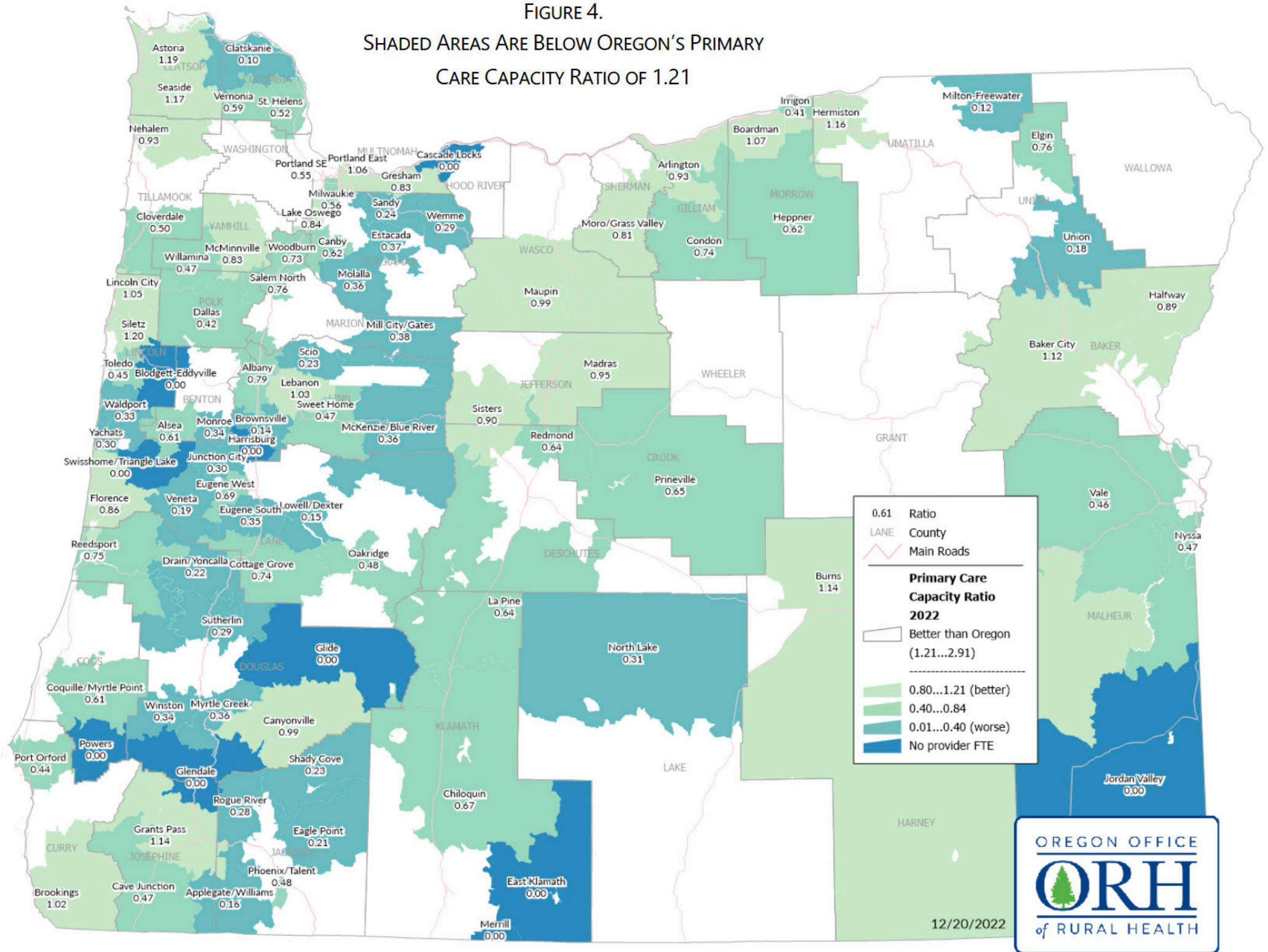
Blodgett-Eddyville, Cascade Locks, East Klamath, Glendale, Glide, Harrisburg, Jordan Valley, Merrill, Powers, and Swisshome/Triangle Lake.

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

	2022	2021
Oregon	1.21	1.26
Urban	1.38	1.43
Rural (without Frontier)	0.88	0.94
Rural (including Frontier)	0.91	0.97
Frontier	1.31	1.36

<sup>8</sup> 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 1.21



12/20/2022



### 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 are from the Oregon Health Authority’s Health Care Workforce Reporting Program: licensure survey (renewals as of January 2022) 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 (2022)

**Methodology:**

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

**Results:**

Oregon has 0.49 dentist patient care FTE per 1,000 people, which is similar to last year’s result of 0.50. Twenty-five primary care service areas (all rural or frontier) have no dentist FTE. The urban areas of Portland SW (1.18) and Eugene/University (0.97) have the highest numbers of dentists per 1,000 people.

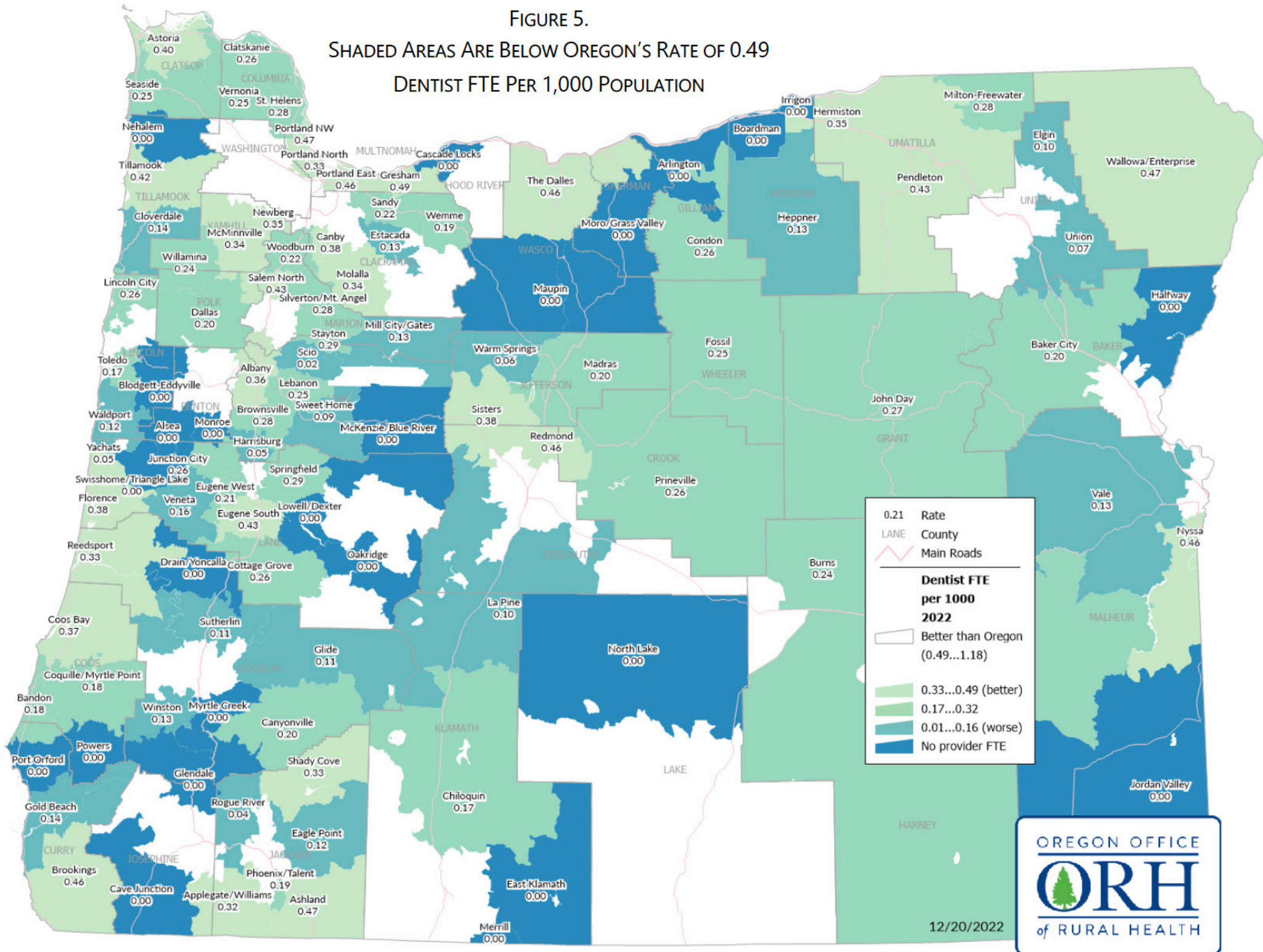
Primary Care Service Areas with no dentists include:

Alea, Arlington, Blodgett-Eddyville, Boardman, Cascade Locks, Cave Junction, Drain/Yoncalla, East Klamath, Glendale, Halfway, Irrigon, Jordan Valley, Lowell/Dexter, 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)**

	2022	2021
Oregon	0.49	0.50
Urban	0.58	0.60
Rural (without Frontier)	0.32	0.33
Rural (including Frontier)	0.32	0.33
Frontier	0.32	0.30

FIGURE 5.  
 SHADED AREAS ARE BELOW OREGON'S RATE OF 0.49  
 DENTIST FTE PER 1,000 POPULATION



12/20/2022



#### 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 Sources:**

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 2022. 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 but do not have a physical work address are also not included.

Local population data: Claritas (2022)

**Methodology:**

$$V_4 = \frac{\text{Sum of mental health provider FTE} \times 1000}{\text{Local population}}$$

**Results:**

There are 1.15 mental health provider FTE per 1,000 people in Oregon, which is less than last year's rate of 1.25 per 1,000. Twenty 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 (5.5), Eugene/University (4.6) and Portland NE (3.1).

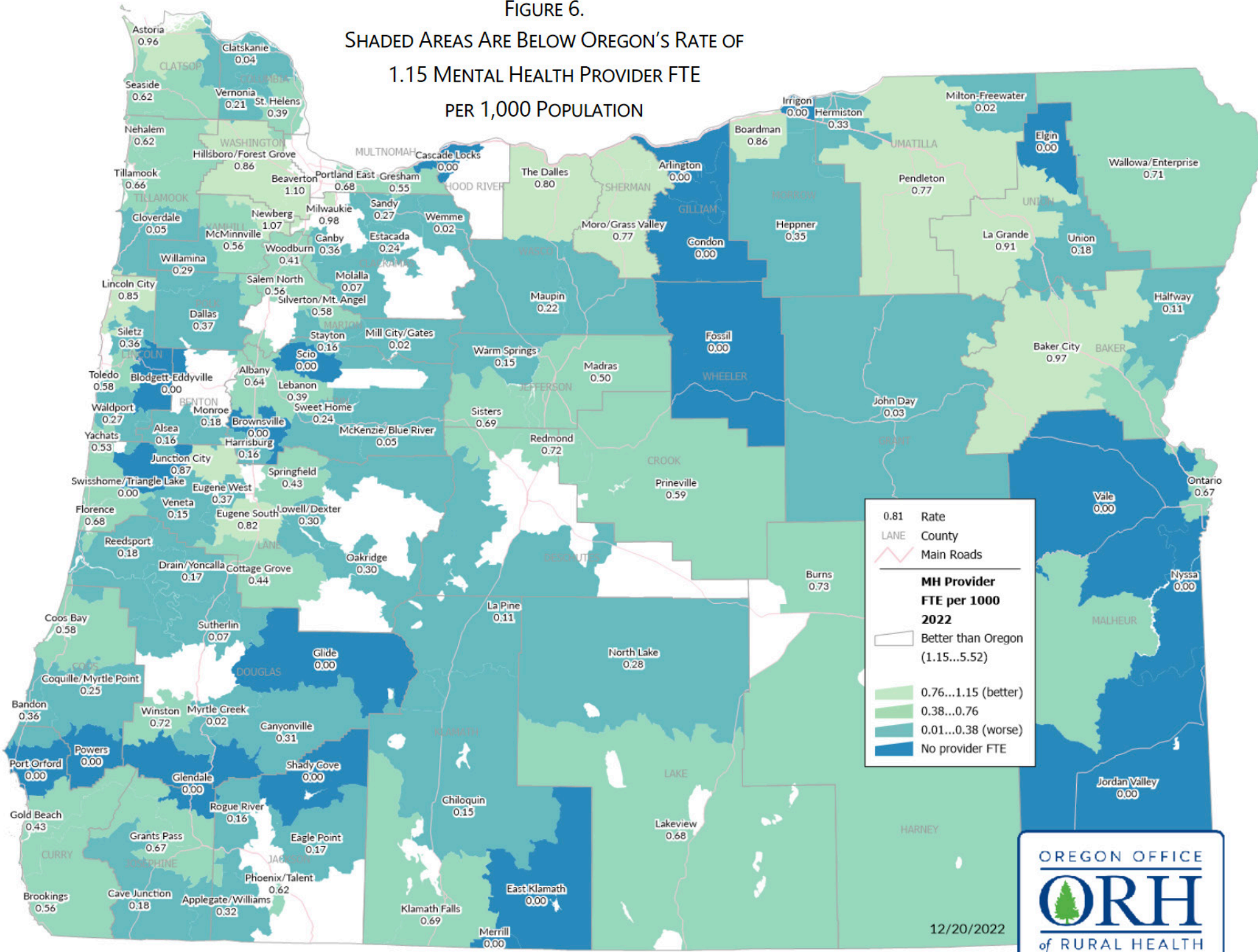
Primary Care Service Areas with no mental health provider FTE include:

Arlington, Blodgett-Eddyville, Brownsville, Cascade Locks, Condon, East Klamath, Elgin, Fossil, Glendale, Glide, Irrigon, Jordan Valley, Merrill, Nyssa, Port Orford, Powers, Scio, Shady Cove, Swisshome/Triangle Lake, and Vale.

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

	2022	2021
Oregon	1.15	1.25
Urban	1.48	1.61
Rural (without Frontier)	0.54	0.58
Rural (including Frontier)	0.54	0.57
Frontier	0.51	0.50

FIGURE 6.  
 SHADED AREAS ARE BELOW OREGON'S RATE OF  
 1.15 MENTAL HEALTH PROVIDER FTE  
 PER 1,000 POPULATION



12/20/2022



## 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 that is above the Medicaid cutoff of 138% of Federal Poverty Level (FPL), but still too poor to afford health insurance on their own (unless health insurance is provided by their employer).

**Data Source:**

American Community Survey (2016-2020)<sup>9</sup>

**Methodology:**

$V_5 = 200\% \text{ FPL} - 138\% \text{ FPL}$

**Results:**

Approximately 11% of Oregonians are between 138% and 200% of the Federal Poverty Level. The rate ranges from a low of 5% in Portland NW and Lake Oswego, to a quarter of the population in Burns (25%) and Blodgett-Eddyville (26%).

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

	2022	2021
Oregon	11%	11%
Urban	9%	10%
Rural (without Frontier)	13%	13%
Rural (including Frontier)	13%	13%
Frontier	15%	15%

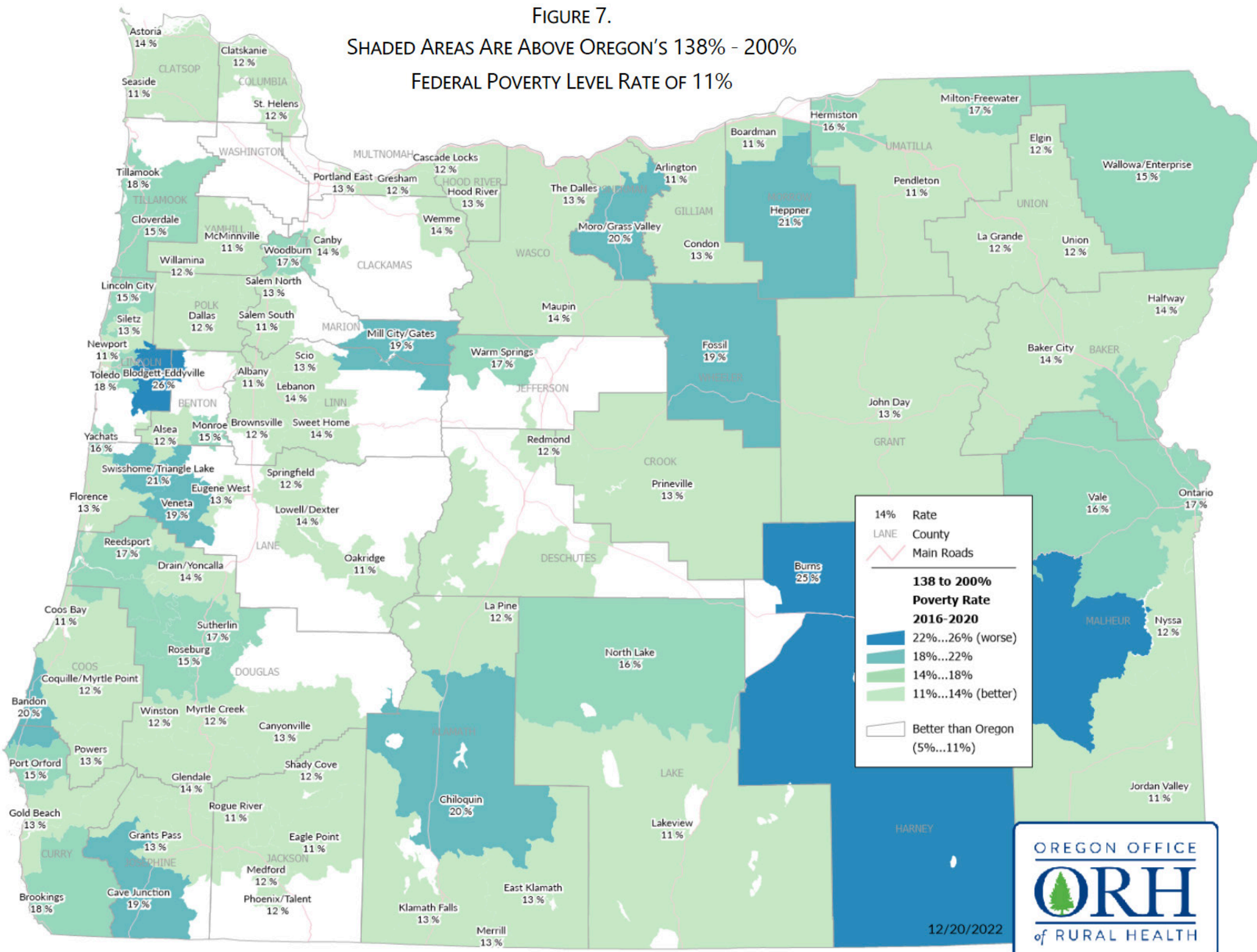
**Highest 138-200% Federal Poverty  
Level Rates**

	2022	2021
Blodgett-Eddyville	26%	28%
Burns	25%	22%
Heppner	21%	19%
Swishhome/Triangle Lake	21%	16%
Bandon	20%	21%
Moro/Grass Valley	20%	21%
Chiloquin	20%	24%

<sup>9</sup> <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 11%



14% Rate  
 LANE County  
 Main Roads

**138 to 200%  
 Poverty Rate  
 2016-2020**

- 22%...26% (worse)
- 18%...22%
- 14%...18%
- 11%...14% (better)

Better than Oregon  
 (5%...11%)



## 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 babies<sup>10</sup>, premature births, stillbirths, neonatal death, and infant death<sup>11</sup>.

#### Data Sources:

Most recent five years (2016-2020) of inadequate prenatal care data by ZIP code from Oregon Health Authority Center for Health Statistics.

#### Methodology:

$$V_6 = \frac{\text{5 years of inadequate prenatal care births}}{\text{5 years of total births}} \times 1000$$

#### Results:

For the years 2016-2020, Oregon's average inadequate prenatal care rate was 60.7 per 1,000 births per year, compared to 60.1 for 2015-2019. Moro/Grass Valley shows no instances of inadequate prenatal care in the last five years, likely because of the few births that occurred (11 per year on average). Warm Springs (255.4) has an inadequate prenatal care rate over four times the state average, while another nine service areas have over twice the state rate.

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

	2022	2021
Oregon	60.7	60.1
Urban	57.6	57.2
Rural (without Frontier)	63.2	62.1
Rural (including Frontier)	65.8	64.8
Frontier	100.0	101.6

#### Five Highest Inadequate Prenatal Care Rates

	2022	2021
Warm Springs	255.4	214.1
Ontario	147.9	148.8
Reedsport	145.8	139.4
East Klamath	142.9	124.4
Gold Beach	139.2	127.7

<sup>10</sup> 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>

<sup>11</sup> 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.

### Data Sources:

All Oregon (2019-2021) and Washington (2017-2019) hospital inpatient discharges for the latest three full calendar years from Apprise Health Insights.

Primary diagnoses filtered using the ACSC ICD-10 codes introduced and updated by John Billings.<sup>12-13</sup>

Local population: Claritas (2022)

### Methodology:

$$V_7 = \frac{3 \text{ Years of ACSC Discharges}}{3} \times 1000$$

Local population

### Results:

Oregon has an average ACSC rate of 6.0 per 1,000 people per year, compared to last year's rate of 6.6. Because only Oregon and Washington hospital data are collected, Oregon residents who go to a hospital in another state are not counted in this calculation. For a few communities near the Oregon border where the closest hospital is in Idaho or California, this means that their total hospital usage is not being captured, and their ACSC rate is most likely higher than reported here. This affects places such as Jordan Valley (0.0)—the lowest result—and Brookings (7.0).

While preventable hospitalizations in Oregon overall have been declining for the past three years, Reedsport (18.4) still has triple the state's ACSC rate, and another seven service areas (all rural or frontier) have over double the state rate.

<b>ACSC per 1,000 (lower is better)</b>	<b>2022</b>	<b>2021</b>
Oregon	6.0	6.6
Urban	5.2	5.8
Rural (without Frontier)	7.5	8.3
Rural (including Frontier)	7.4	8.2
Frontier	7.0	7.6

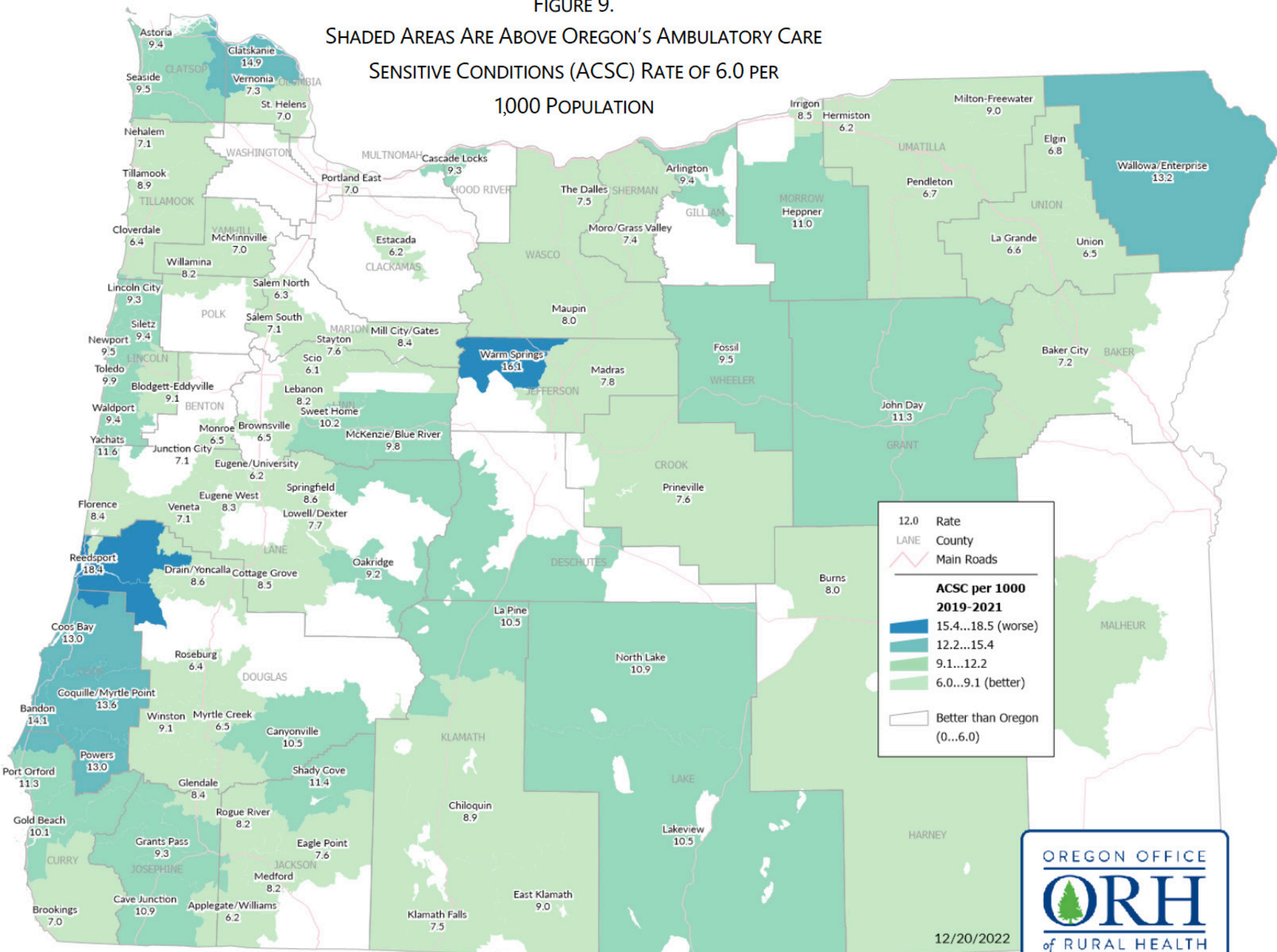
<b>Five Highest ACSC Rates</b>	<b>2022</b>	<b>2021</b>
Reedsport	18.4	21.5
Warm Springs	16.1	17.5
Clatskanie	14.9	16.3
Bandon	14.1	16.7
Coquille/Myrtle Point	13.6	16.3

<sup>12</sup> 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/>.

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

FIGURE 9.

SHADED AREAS ARE ABOVE OREGON'S AMBULATORY CARE SENSITIVE CONDITIONS (ACSC) RATE OF 6.0 PER 1,000 POPULATION



12.0 Rate

LANE County

Main Roads

**ACSC per 1000 2019-2021**

- 15.4...18.5 (worse)
- 12.2...15.4
- 9.1...12.2
- 6.0...9.1 (better)

Better than Oregon (0...6.0)



12/20/2022

## 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.<sup>14</sup> Often these visits result in opioid and antibiotic prescriptions, rather than definitive dental care.<sup>15</sup>

### Data Sources:

All Oregon hospital inpatient and outpatient ED visits for the latest three calendar years (2019-2021) 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.”<sup>16</sup> ICD-9 codes used in the study were updated to ICD-10.

Local population: Claritas (2022)

### Methodology:

$$V_8 = \frac{3 \text{ Years of Non-Traumatic Dental ED Visits}}{3} \times 1000$$

Local Population

### Results:

Oregon has an average non-traumatic dental ED visit rate of 3.3 per 1,000 per year, which is lower than the result of 3.6 last year. Because only Oregon hospital data are collected, Oregon residents who go to a hospital in another state 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 their total hospital usage is not being captured, and is most likely higher than reported here. This applies to places such as Milton-Freewater (0.2), Jordan Valley (0.5), —the two best results—and Brookings (6.8).

Fifteen service areas (all rural or frontier) have over double the state rate of dental ED visits, and Warm Springs (14.3) has a rate almost 4.5 times that number.

The amount of statewide non-traumatic dental visits to the ED has been decreasing for the past three years: 2018: 17,205 | 2019: 16,130 | 2020: 12,906 | 2021: 13,233. The large drop in 2020 was probably driven by the general decline of hospital visits during the COVID-19 pandemic.

<b>ED Dental Visits per 1,000 (lower is better)</b>	<b>2022</b>	<b>2021</b>
Oregon	3.3	3.6
Urban	2.7	3.0
Rural (without Frontier)	4.4	4.7
Rural (including Frontier)	4.4	4.7
Frontier	4.4	4.9

<sup>14</sup> Sun 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/>.

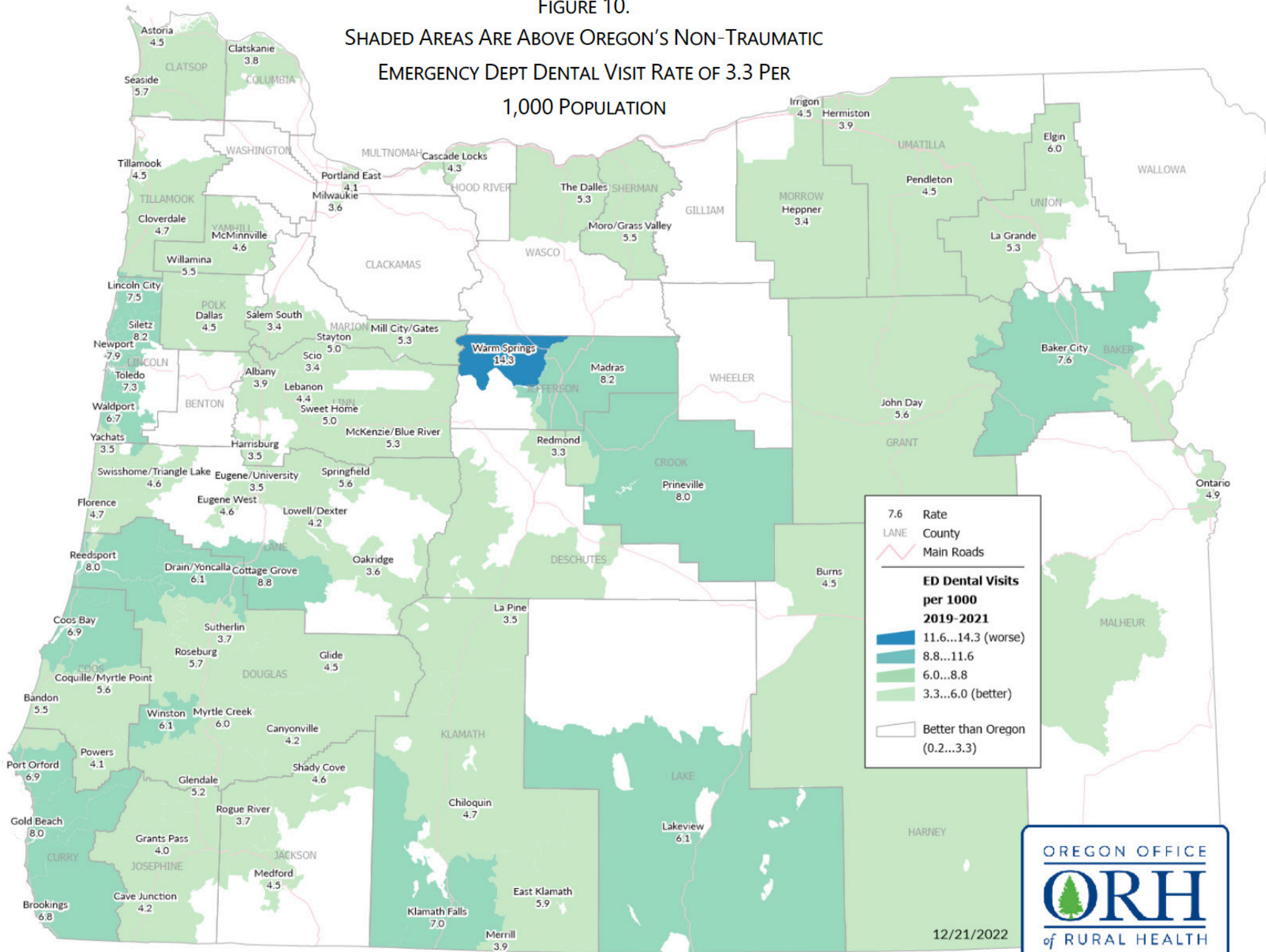
<sup>15</sup> Ibid.

<sup>16</sup> Ibid.

<b>Highest ED Dental Visit Rates</b>	<b>2022</b>	<b>2021</b>
Warm Springs	14.3	16.1
Cottage Grove	8.8	9.1
Siletz	8.2	9.4
Madras	8.2	8.7
Reedsport	8.0	7.5
Gold Beach	8.0	6.3
Prineville	8.0	8.7

FIGURE 10.

SHADED AREAS ARE ABOVE OREGON'S NON-TRAUMATIC  
EMERGENCY DEPT DENTAL VISIT RATE OF 3.3 PER  
1,000 POPULATION



7.6 Rate  
LANE County  
Main Roads

**ED Dental Visits per 1000 2019-2021**

- 11.6...14.3 (worse)
- 8.8...11.6
- 6.0...8.8
- 3.3...6.0 (better)
- Better than Oregon (0.2...3.3)



12/21/2022

## b) 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.<sup>17</sup> They are more than twice as likely to result in a hospital admission,<sup>18</sup> and the increasing rate of MHSU ED visits in the past few years is highest among low-income populations.<sup>19</sup> 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.<sup>20</sup>

### Data Sources:

All Oregon hospital inpatient and outpatient ED visits for the latest three calendar years (2019-2021) from Apprise Health Insights.

Principal diagnoses are filtered for the Clinical Classification Software (CCS) diagnosis groups used in the article “Mental Health and Substance Abuse-Related Emergency Department Visits among Adults, 2007”<sup>21</sup> 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 (2022)

### Methodology:

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

Local Population

### Results:

Oregon’s current average mental health/substance use ED visit rate is 17.6 per 1,000 population per year, compared to last year’s rate of 18.0. 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 (1.7), Jordan Valley (2.7)—the two best results—and Brookings (15.4).

This is the only variable where rural areas (16.3) as a whole perform better than urban areas (18.2), although the worst performing service area, Warm Springs (50.5), is rural and has almost triple the state’s rate.

<sup>17</sup> Rockett 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.

<sup>18</sup> Owens 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.

<sup>19</sup> Weiss 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.

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

<sup>21</sup> Owens 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:

2017: 72,015  
 2018: 78,346  
 2019: 78,851  
 2020: 72,638  
 2021: 74,919

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 the highest in five years:

2017: 9,914  
 2018: 11,794  
 2019: 11,683  
 2020: 11,671  
 2021: 13,083

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

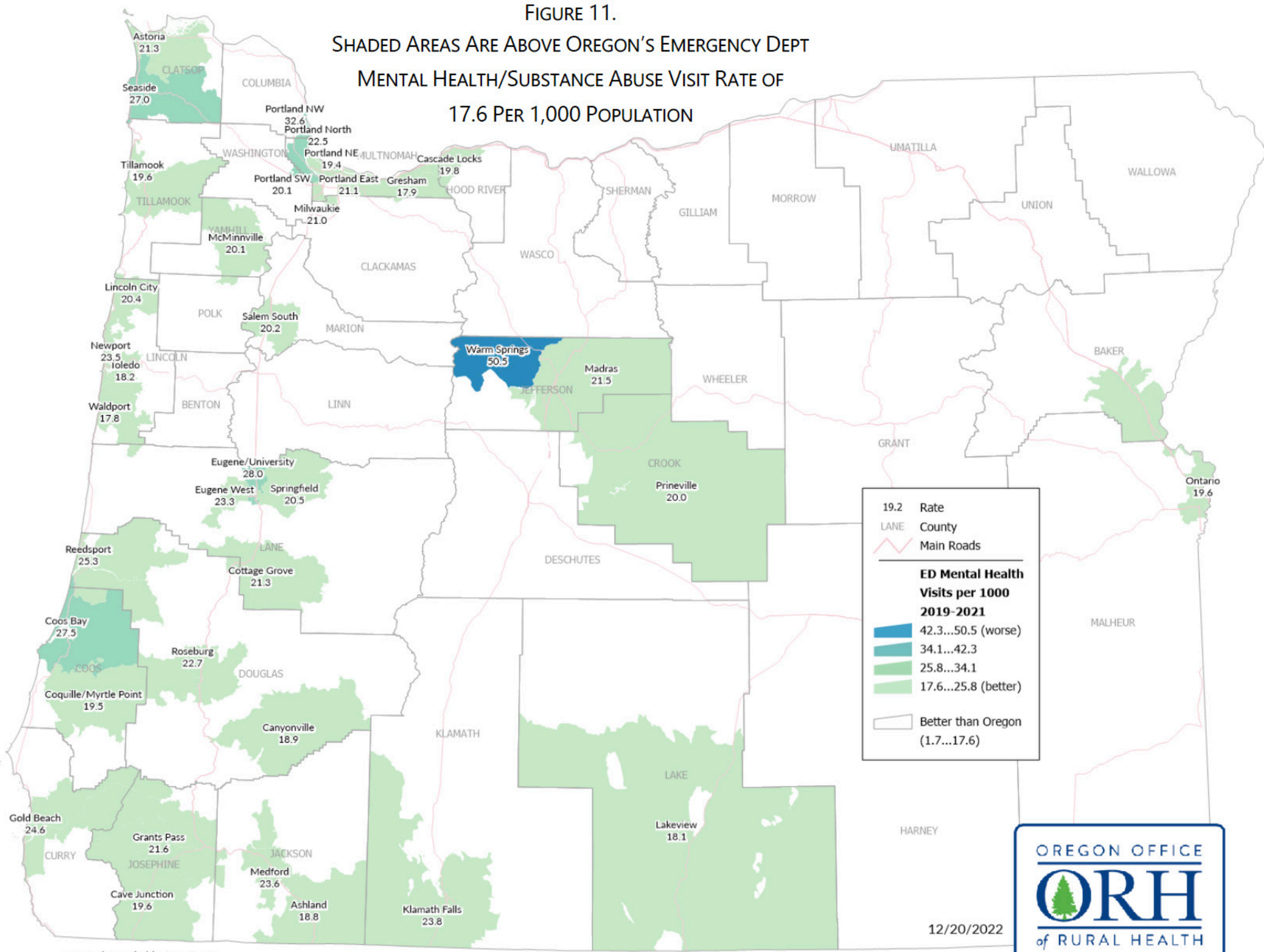
	2022	2021
Oregon	17.6	18.0
Urban	18.2	18.8
Rural (without Frontier)	16.5	16.8
Rural (including Frontier)	16.3	16.7
Frontier	14.3	14.3

**Five Highest ED MHSU Rates**

	2022	2021
Warm Springs	50.5	52.0
Portland NW	32.6	36.5
Eugene/University	28.0	27.1
Coos Bay	27.5	28.6
Seaside	27.0	27.2

FIGURE 11.

SHADED AREAS ARE ABOVE OREGON'S EMERGENCY DEPT  
 MENTAL HEALTH/SUBSTANCE ABUSE VISIT RATE OF  
 17.6 PER 1,000 POPULATION



19.2 Rate  
 LANE County  
 Main Roads

**ED Mental Health Visits per 1000 2019-2021**

- 42.3...50.5 (worse)
- 34.1...42.3
- 25.8...34.1
- 17.6...25.8 (better)
- Better than Oregon (1.7...17.6)



# Total Scores

## Methodology:

A score of between 0 (worst) and 10 (best) is calculated for each of the 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:

$$V_1 + V_2 + V_3 + V_4 + V_5 + V_6 + V_7 + V_8 + V_9 = \text{Unmet Need Total Score (0 to 90)}$$

## Results:

The highest (best) scoring primary care service area is Portland SW (79 out of 90), and the highest-scoring rural service area is Sisters (69). Warm Springs has the lowest (worst) score of 18, followed by East Klamath (24) and Port Orford (26). Rural and frontier areas comprise all but one of the 62 service areas that fall below the mean score of 49.4 for the state. However, of the 10 highest-scoring service areas only two are 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, and their hospitalizations caused them to have the worst score (0 out of 10) for both mental health and dental health ED visits, as well as the next to worst score (1 out of 10) for ACSC/preventable hospitalizations. They also have the worst score (0) for inadequate prenatal health care, with a rate over four times that of the state.

Also of note, Warm Springs and Cascade Locks (which also had a very low score of 32) sit adjacent to two of the highest-scoring areas of the state: Sisters (69), and Hood River (68). In addition, having a hospital within the service area, as is the case with Reedsport (34), does not by itself prevent a community from having a low total score.

One 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 (51), Jordan Valley (42), and Milton-Freewater (43)—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 access to and utilization of health care services than is actually the case. Their total scores and rankings should be interpreted with this in mind.

<i>Mean (Average) Score by Geographic Area</i>	<b>2022</b>	<b>2021</b>
Oregon	49.4	49.4
Urban	62.1	62.6
Rural (without Frontier)	45.9	46.0
Rural (including Frontier)	46.4	46.4
Frontier	48.9	48

<i>Areas With the Lowest Total Scores</i>	<b>2022</b>	<b>2021</b>
Warm Springs	18	24
East Klamath	24	26
Port Orford	26	26
Glendale	27	27
Swishhome/Triangle Lake	27	27
Powers	29	32
Drain/Yoncalla	31	29
Cascade Locks	32	27



## Get in touch




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