OREGON OFFICE of RURAL HEALTH

43rd Annual Oregon
Rural Health Conference
October 7- 9, 2026

OPPORTUNITY Just knock.

OHSU

2026 Oregon Rural Health Conference Presentation Slides

Welcome to the AHEC Scholars Student Presentations

This project is supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) under U77HP03052 Model State Area Health Education Centers. This information of content and conclusions are those of the author and should not be construed as the official position or policy of, nor should any endorsements be inferred by HRSA, HHS or the U.S. Government.

RURAL SCHOOL HEALTH / 2026

Improving Early Identification of Student Health Needs Through School-Based Screening

Reno R. Hammond, BPH, SN

OHSU School of Nursing
Northeast Oregon Area Health Education Center



Baker 5J, by the numbers

14%
students with disabilities

79%
on track to graduate

30%
students in poverty

115 teachers • 2 nurses • 13 counselors /psychologists • 1,526 students

(Oregon Department of Education, 2025; Oregon Health Authority, 2024)





An Overlooked Issue-Mental Health

13.4% Report poor emotional / mental health in Baker 5J School District

36.8% Felt stressed for several days in Baker 5J School District

#2 Suicide is the 2nd leading cause of death among ages 10–14 year olds

#1 Cause of disability among 3-17 year olds is mental health challenges

Unmet physical and emotional needs affect attendance, belonging, concentration, and academic success.

(Agency for Healthcare Research and Quality (US), 2022; Oregon Health Authority, 2024)

Disconnected inputs create gaps in care.

CURRENT PROCESS

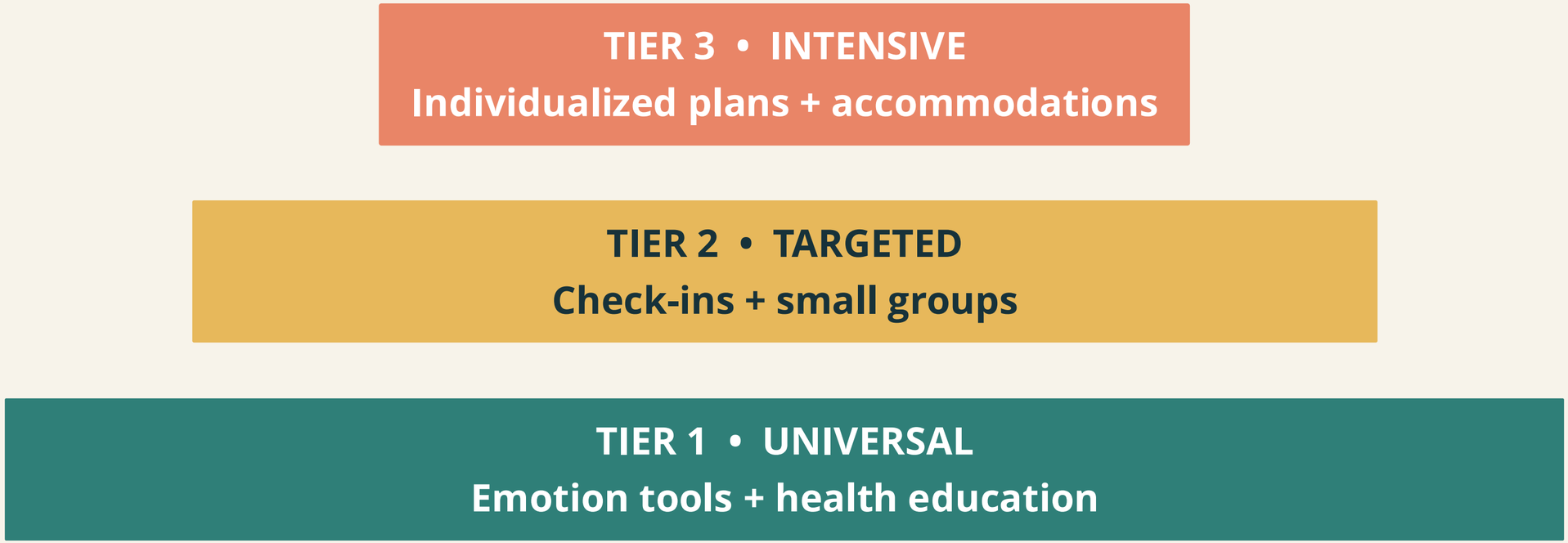
- Multiple tools: PowerSchool + Google Sheets + Paper Forms
- Limited social / behavioral documentation
- Overextended nursing + counseling staff

RESULTING BARRIERS

- Inconsistent data collection
- Poor coordination during transitions
- Limited MTSS integration + buy-in

MULTI-TIERED SYSTEM OF SUPPORT

One system–Three levels of response



Better social behavior • stronger academics • improved graduation

(American Academy, n.d.; Lytle et al., 2024; McCabe et al., 2022)

From registration to response

Register in person — Complete English / Spanish — Consolidate data — Weekly MTSS review — Teacher access — Monitor + intervene







Strengths and Difficulties (SDQ) Questionnaire

25 questions. Five domains. One clearer signal.

0–40

>16 → monitor

01	02	03	04	05
Emotional	Conduct	Hyperactivity	Peer relations	Prosocial behavior

Validated for ages 4–17 • Parent, teacher, or student forms • English / Spanish • Automated spreadsheet scoring

(Al-Dhahri et al., 2025; Armitage et al., 2023; Grasso et al., 2022)

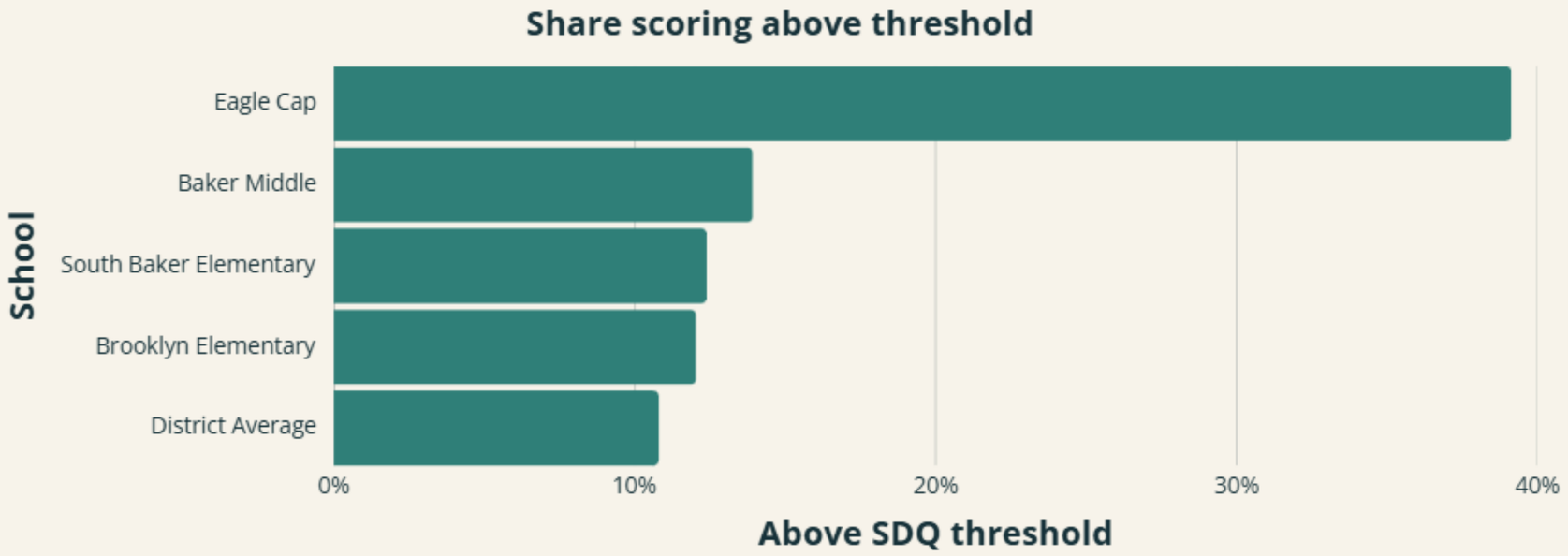
EARLY RESULTS / AUGUST 2026

Universal screening is feasible — and actionable.

1,041
completed forms

9
schools

10.8%
above threshold



~1,600
students in the screening population

Prioritize follow-up where the signal is strongest.

Measure the response, not just the signal.

OVERALL GOAL

Data-driven early identification and support

JAN 2027

Weekly

MTSS team meetings for monitoring

AUG 2027

70%

of high scorers reduce SDQ by ≥4 points

WITHIN 4 MONTHS

10% / 5%

academic / attendance improvement for Tier 2–3 students

KEY TAKEAWAYS

Build the system that notices sooner.



Project team: Reno R. Hammond (left) with school nurses Hailey Siddoway (Center) and Riley Hall (Right)

01 Standardized screening improves early detection.

02 MTSS turns signals into tailored support.

04 Early results justify continued expansion.

NEXT → Evaluate • train • adopt district-wide

Questions are welcome



Thank you for your attention. Let’s continue the conversation about earlier, more coordinated support for rural Oregon students.

Reno R. Hammond, BPH, SN
OHSU School of Nursing • Northeast Oregon AHEC

References

Agency for Healthcare Research and Quality. (2022). *2022 National healthcare quality and disparities report [internet]*. National Center for Biotechnology Information. https://www.ncbi.nlm.nih.gov/books/NBK587174/

Al-Dhahri, M., Al-Huseini, S., Al-Jamoudi, M., Jaju, S., Al-Adawi, S., & Mirza, H. (2025). Accuracy of the strengths and difficulties questionnaire in identifying common mental health disorders in children and adolescents: A cross-sectional analytical study. *Discover Mental Health*, *5*(1), 4. https://doi.org/10.1007/s44192-025-00129-1

American Academy. (n.d.). *Multi-tiered system of supports (MTSS)*. https://www.aak8.org/apps/pages/aa-sss-rti

Armitage, J. M., Tseliou, F., Riglin, L., Dennison, C., Eyre, O., Bevan Jones, R., Rice, F., Thapar, A. K., Thapar, A., & Collishaw, S. (2023). Validation of the strengths and difficulties questionnaire (SDQ) emotional subscale in assessing depression and anxiety across development. *PloS One*, *18*(7), e0288882. https://doi.org/10.1371/journal.pone.0288882

Grasso, M., Lazzaro, G., Demaria, F., Menghini, D., & Vicari, S. (2022). The strengths and difficulties questionnaire as a valuable screening tool for identifying core symptoms and behavioural and emotional problems in children with neuropsychiatric disorders. *International Journal of Environmental Research and Public Health*, *19*(13), 7731. https://doi.org/10.3390/ijerph19137731

Lytle, M., Rau, W., & Stoner, S. (2024). The role of the school nurse in social-emotional assessment and intervention using the MTSS framework. *NASN School Nurse*, *39*(6), 306–314. https://doi.org/10.1177/1942602X241240499

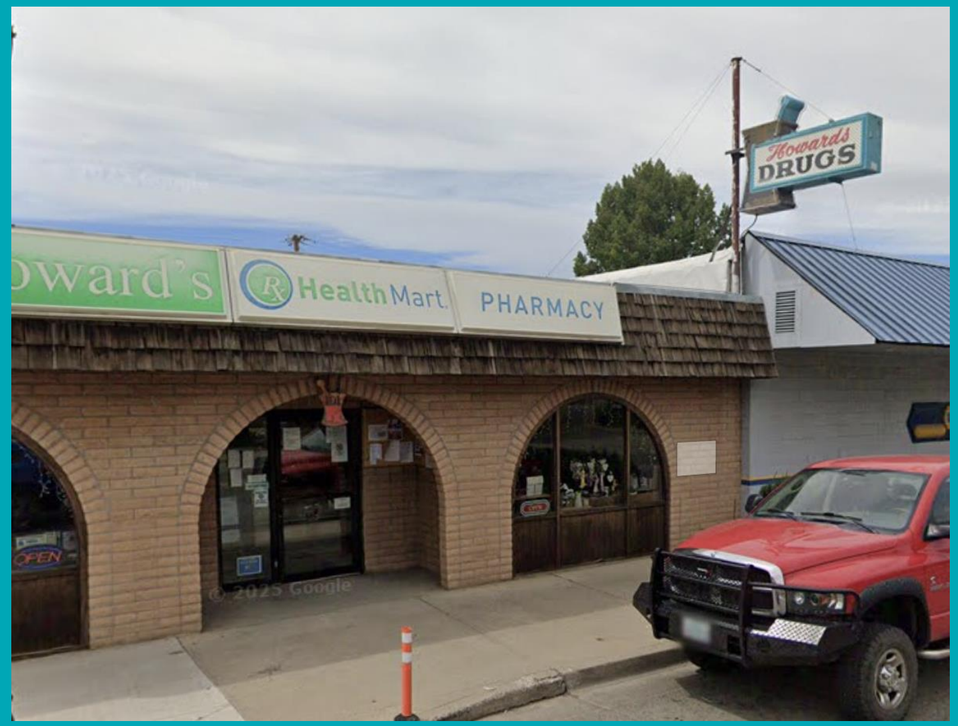
McCabe, E. M., Davis, C., Mandy, L., & Wong, C. (2022). The role of school connectedness in supporting the health and well-being of youth: Recommendations for school nurses. *NASN School Nurse*, *37*(1), 42–47. https://doi.org/10.1177/1942602X211048481

Oregon Department of Education. (2025). *Oregon at-a-glance district profile. https://www.ode.state.or.us/data/ReportCard/*

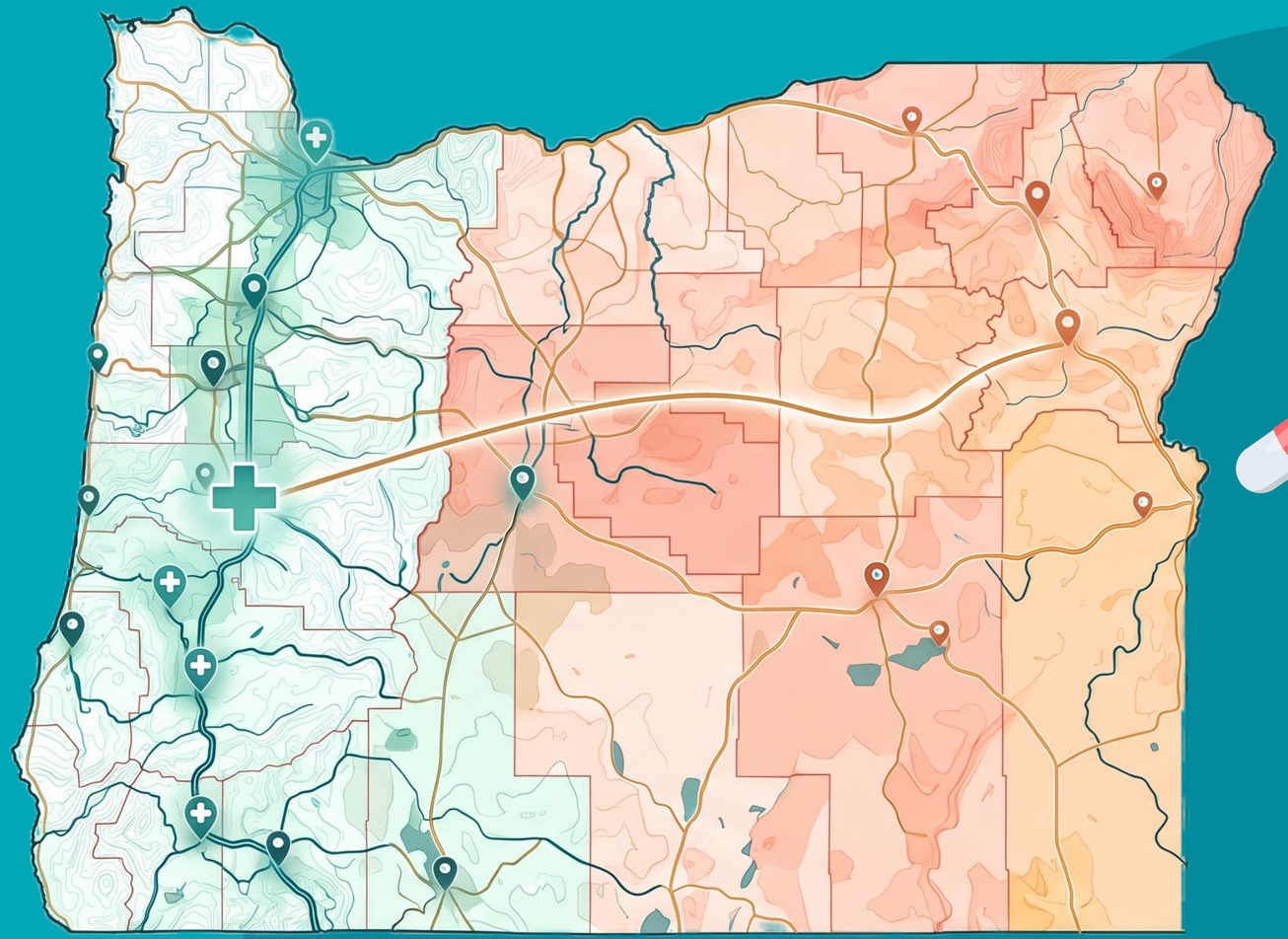
Oregon Health Authority. (2024). *Oregon student health survey*. https://www.oregon.gov/oha/PH/BIRTHDEATHCERTIFICATES/SURVEYS/Documents/SHS/2024/Reports/County/Baker%20County%202024.pdf

Mapping the Gap

A Geospatial Analysis of Pharmacy Deserts, Social Vulnerability, and Health Equity Across Oregon



Howard’s Health Mart Pharmacy (Lakeview, OR)



Brandon San, MBA, MSHI, PharmD Candidate
Pacific University School of Pharmacy
University of Illinois Chicago College of Applied Health Sciences

What is a Pharmacy Desert?



Gebhart F. The growing problem of pharmacy deserts. *Drug Topics*. Published September 24, 2019. Accessed October 1, 2026.



What is a Pharmacy Desert?

- USDA's food desert model by Dr. Dima Qato
  - Rigid Geographic Distance
- Food Deserts and Pharmacy Deserts used the same model for classification.

- **Definition:** Areas lacking reasonable access to a pharmacy (typically traveling 10+ miles).
- **Urban Impact:** Driven by store closures in underserved neighborhoods.
- **Rural Impact:** Hardest hit, as the absence of alternative healthcare options compounds the loss.

Zip Codes?

ZIP Codes

- ✗ Designed strictly for mail delivery.
- ✗ Massive size distorts geographic mapping.
- ✗ Masks hyper-local inequalities.

Census Tracts

- ✓ Highly granular local measurement.
- ✓ Groups 1,200 to 8,000 residents.
- ✓ Reveals precise walkability barriers.

Zip Codes?

ZIP Codes

- ✗ Designed strictly for mail delivery.
- ✗ Massive size distorts geographic mapping.
- ✗ Masks hyper-local inequalities.

Census Tracts

- ✓ Highly granular local measurement.
- ✓ Groups 1,200 to 8,000 residents.
- ✓ Reveals precise walkability barriers.

97910

Zip Codes?

ZIP Codes

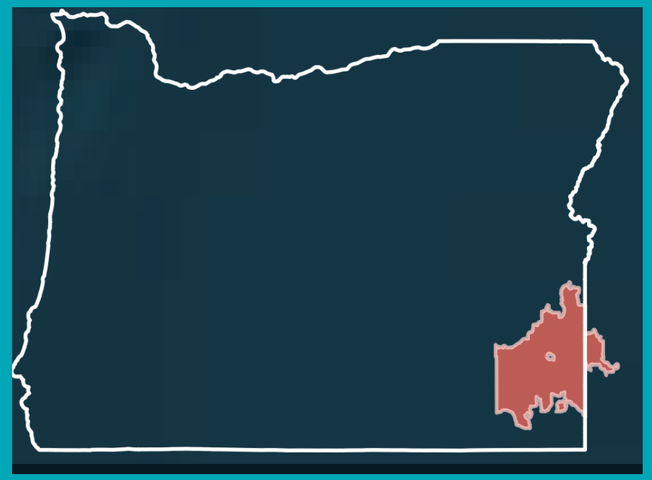
- ✗ Designed strictly for mail delivery.
- ✗ Massive size distorts geographic mapping.
- ✗ Masks hyper-local inequalities.

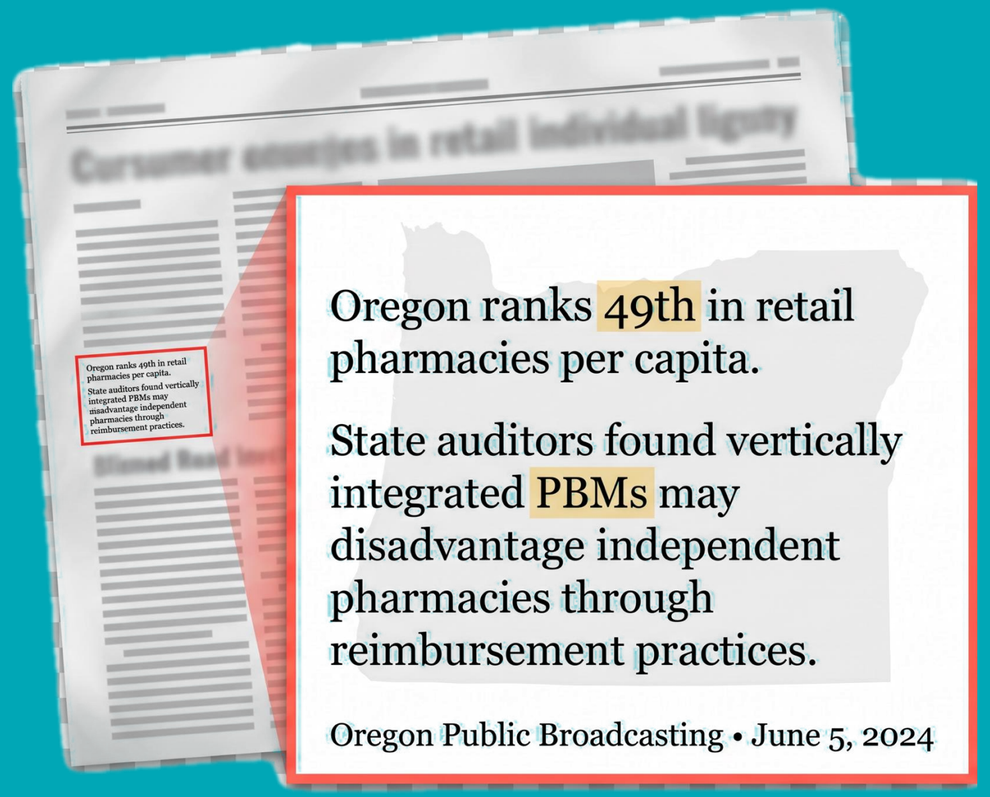
Census Tracts

- ✓ Highly granular local measurement.
- ✓ Groups 1,200 to 8,000 residents.
- ✓ Reveals precise walkability barriers.

97910

Jordan Valley Region
Southeastern OR
3,949 square miles of land







Silverton, OR Rite Aid
32 Rite Aid Locations in OR (2025)

Access is an Infrastructure Problem

A pharmacy can be geographically present yet functionally inaccessible or financially one contract away from closure.

Geography

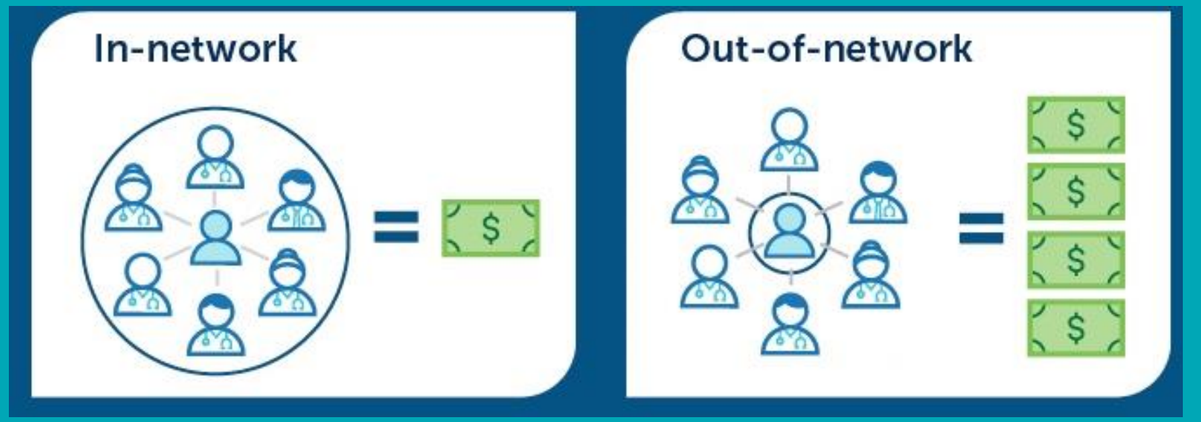
- Distance and drive time determine whether a prescription is realistically reachable.

Choice

- Network design mail-order steering determine whether the nearby pharmacy is usable.

Survival

- Reimbursements and Prescription volume determine whether that pharmacy remains open.



CCO

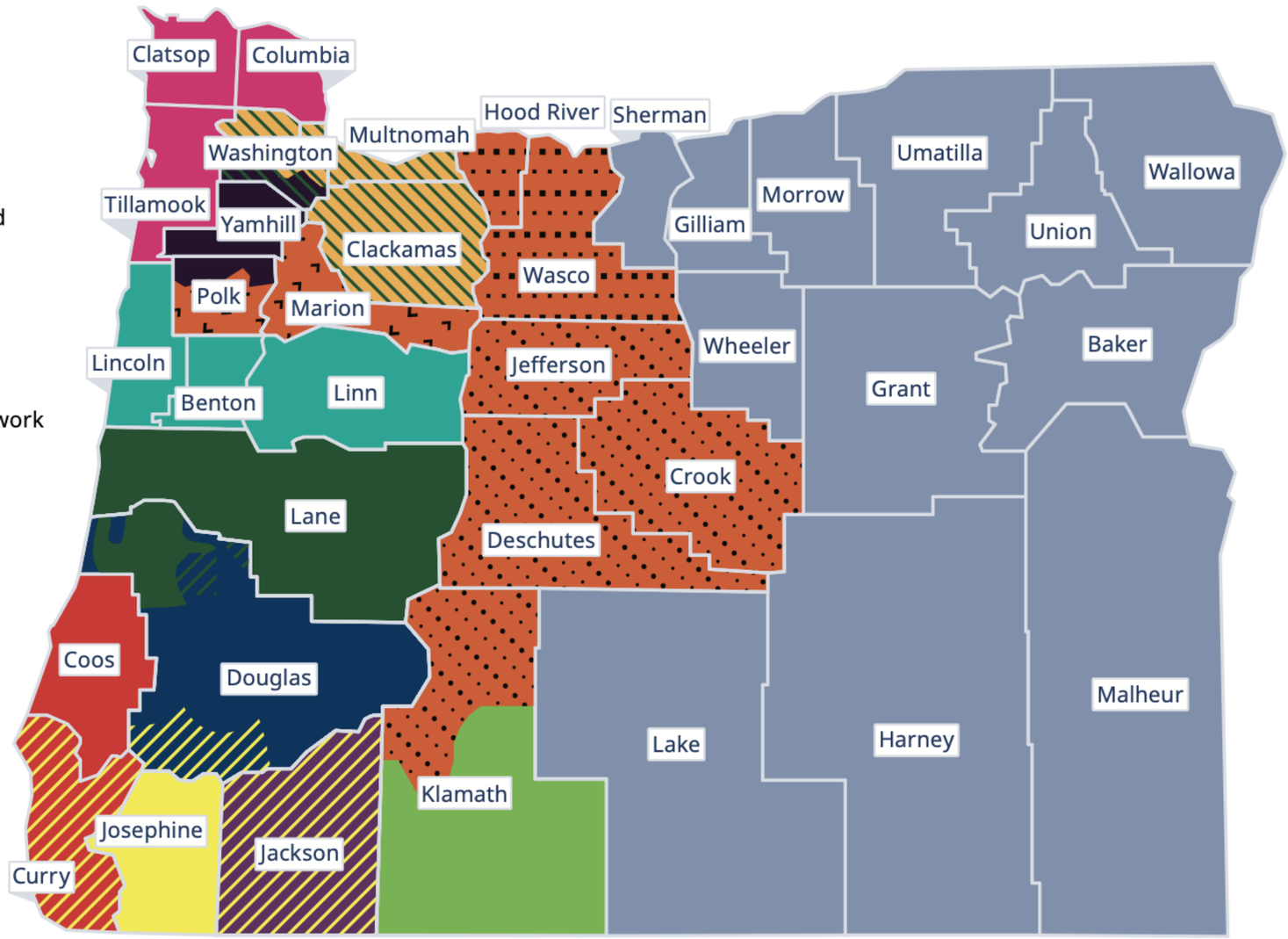
Eastern Oregon CCO spans 12 counties

PacificSource Lane County CCO ceased operations in February 2026. Members have transitioned to Trillium or Open Card

Coordinated Care Service Area Map

OREGON HEALTH AUTHORITY

- Advanced Health
- AllCare Coordinated Care Organization
  - Overlapping coverage
- Cascade Health Alliance
- Columbia Pacific Coordinated Care Organization
- Eastern Oregon Coordinated Care Organization
- Health Share of Oregon
- InterCommunity Health Network
- Jackson Care Connect
- PacificSource Community Solutions
  - Marion-Polk
  - Central Oregon
  - Columbia Gorge
- Trillium Community Health Plan Southwest
  - Overlapping coverage
- Trillium Community Health Plan Tri-county
- Umpqua Health Alliance
- Yamhill Community Care



You can get this document in other languages, large print, braille or a format you prefer free of charge. Contact the Equity and Inclusion Division at oha.languageaccess@odhsoha.oregon.gov or 1-844-882-7889. We accept all relay calls.

200-1338300_OHA 8116 CCO Map (03/2026)

Why CCO's should care?

The pharmacy is part of the risk model

Access Friction

Long travel, closed stores, restricted networks, or forced mail order.

Delayed Therapy

Late starts, abandoned fills, gaps in adherence, and missed pharmacist support.

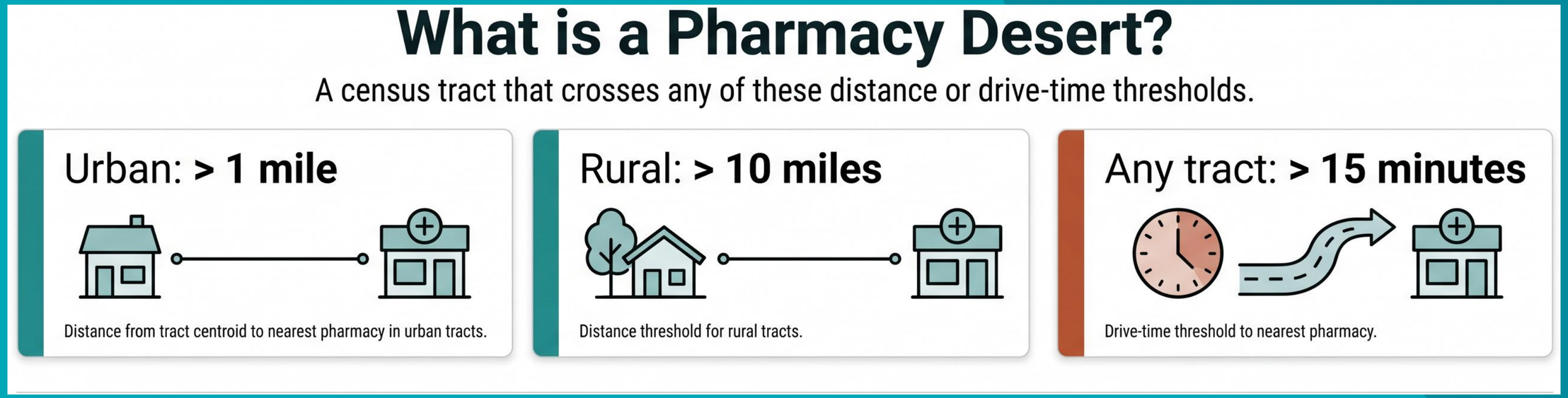
Clinical Deterioration

Less control of chronic disease and avoidable use of higher-cost care.

CCO impact

Higher total cost and weaker performance on access and quality goals.

Is OREGON on TRACT?



992 Oregon Census Tracts

- 2020 US Census Data

Population-Weighted Centroids

- Adjustments made for Urban and Rural thresholds

Latest possible data

- OR Board of Pharmacy
- Census/ACS
- Social Vulnerability Index

Portland Metro Area

- Sub analysis
- Urban
- Suburban

485 / 992 (48.9%)

Oregon Census Tracts → Pharmacy Deserts

+

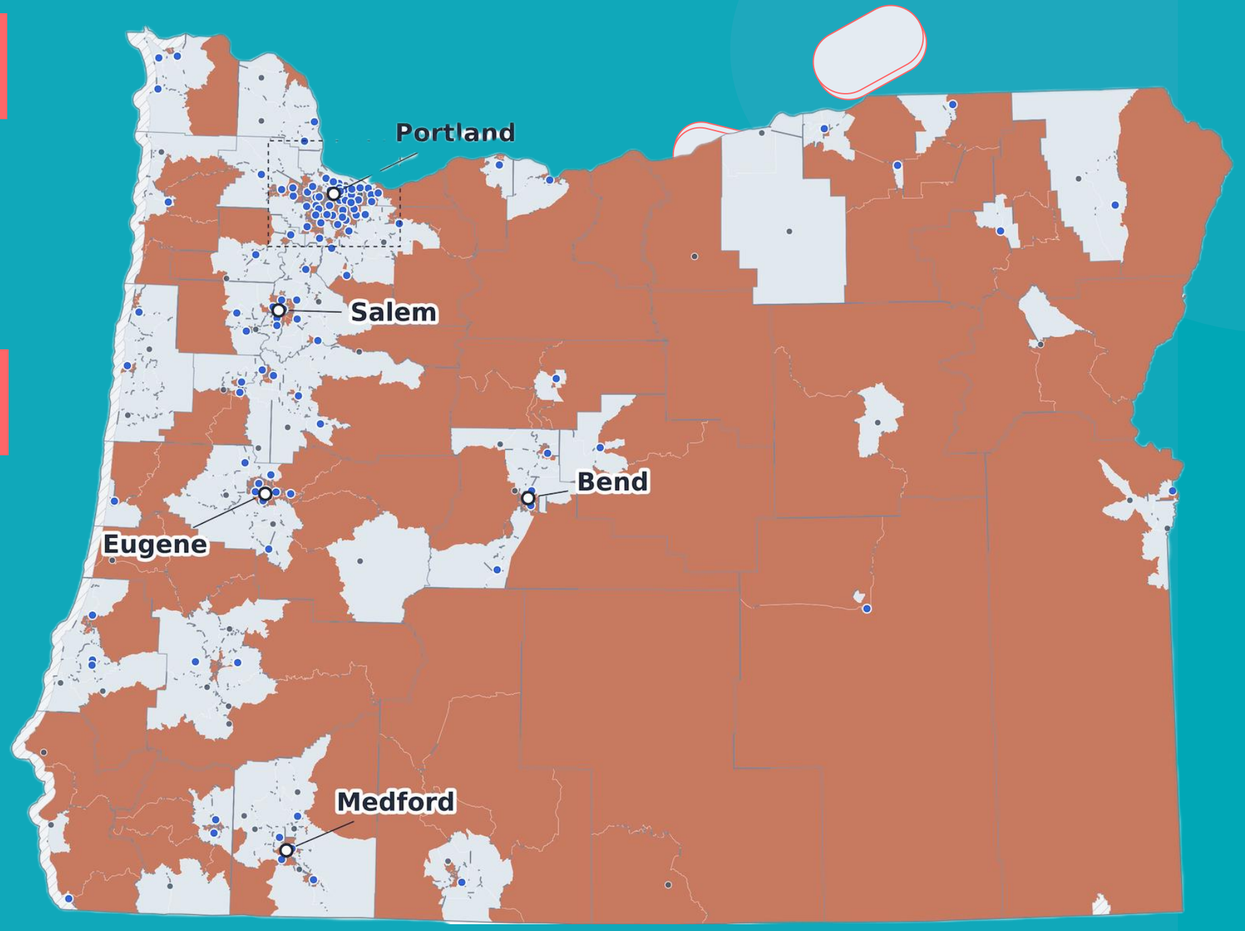
2.06 M (49.3%)

Oregonians → Live in Desert Tracts

+

663

Active Pharmacies



Who lives in Oregon’s Pharmacy Deserts?

~325,000
Adults 65+
Older residents often carry greater medication burden and mobility constraints.

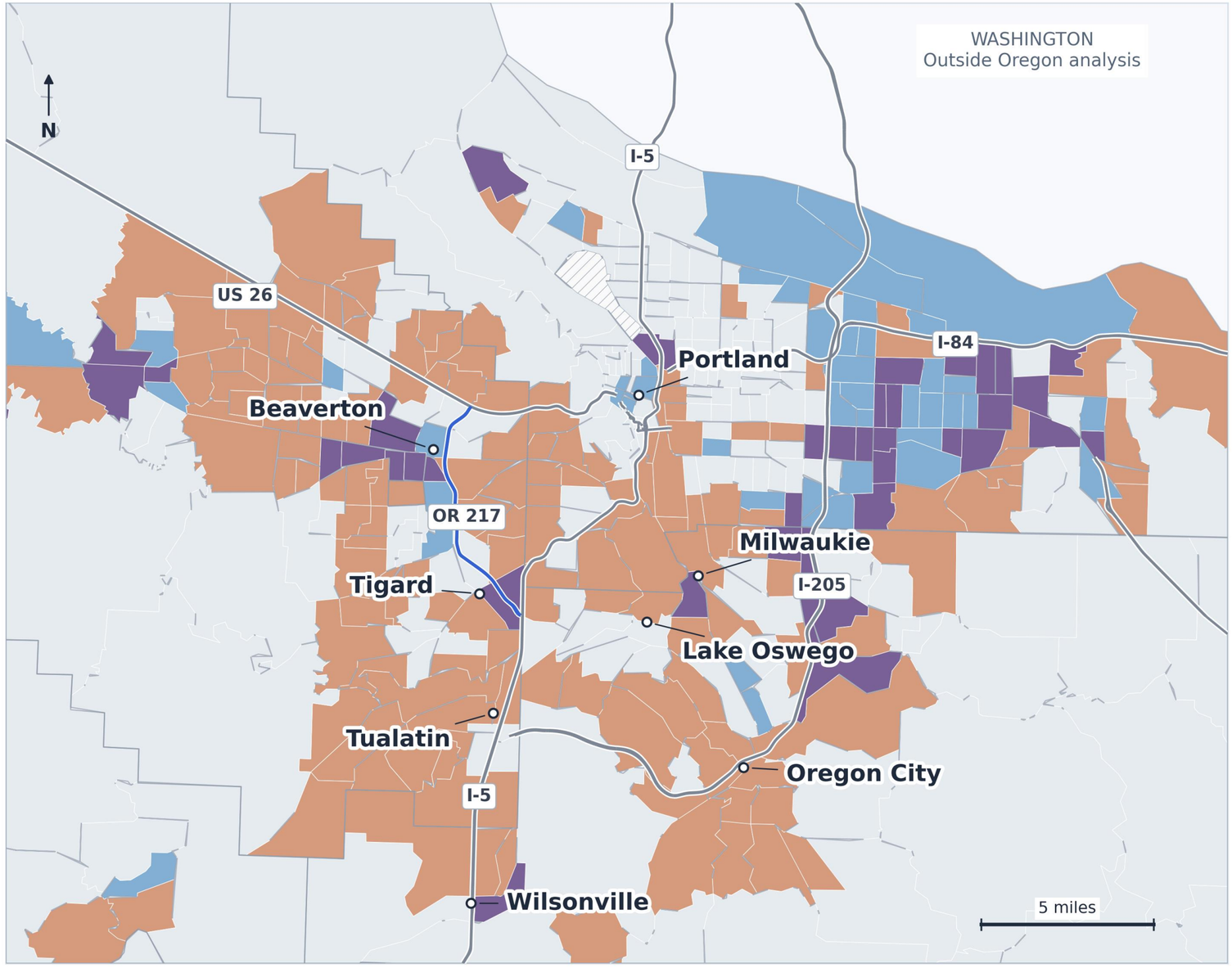
~254,800
People with a disability
Distance can compound physical and transportation barriers.

~329,100
Below 150% FPL
Travel costs and network restrictions can magnify affordability barriers.

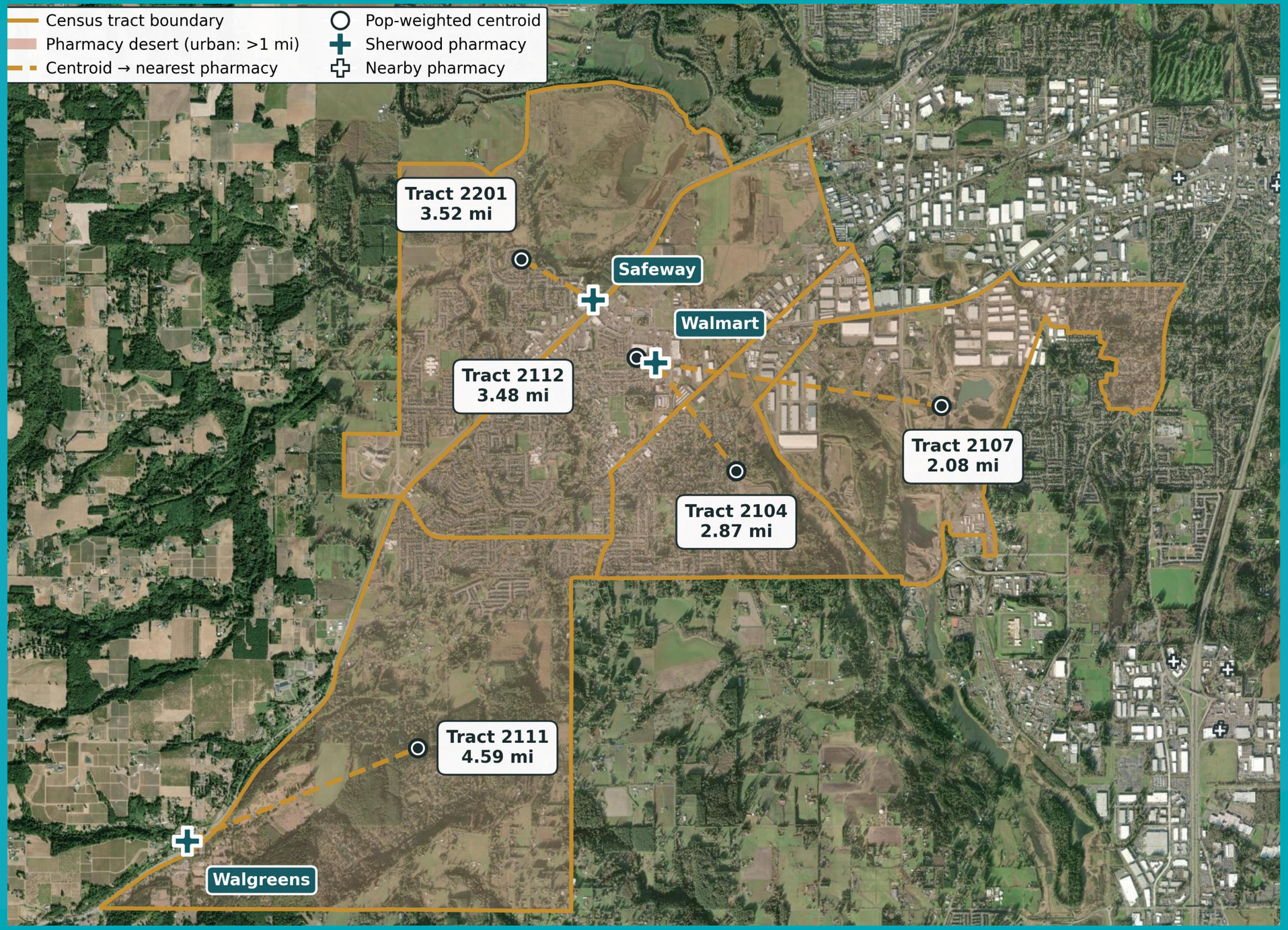
~473,100
Racial or ethnic minorities
Access policy should include language and culturally responsive service capacity.

~82,800
Households without vehicles
Drive-time measures can understate access barriers when driving is not available.

How about Portland?



Wait! Why is Sherwood, Oregon a Pharmacy Desert?

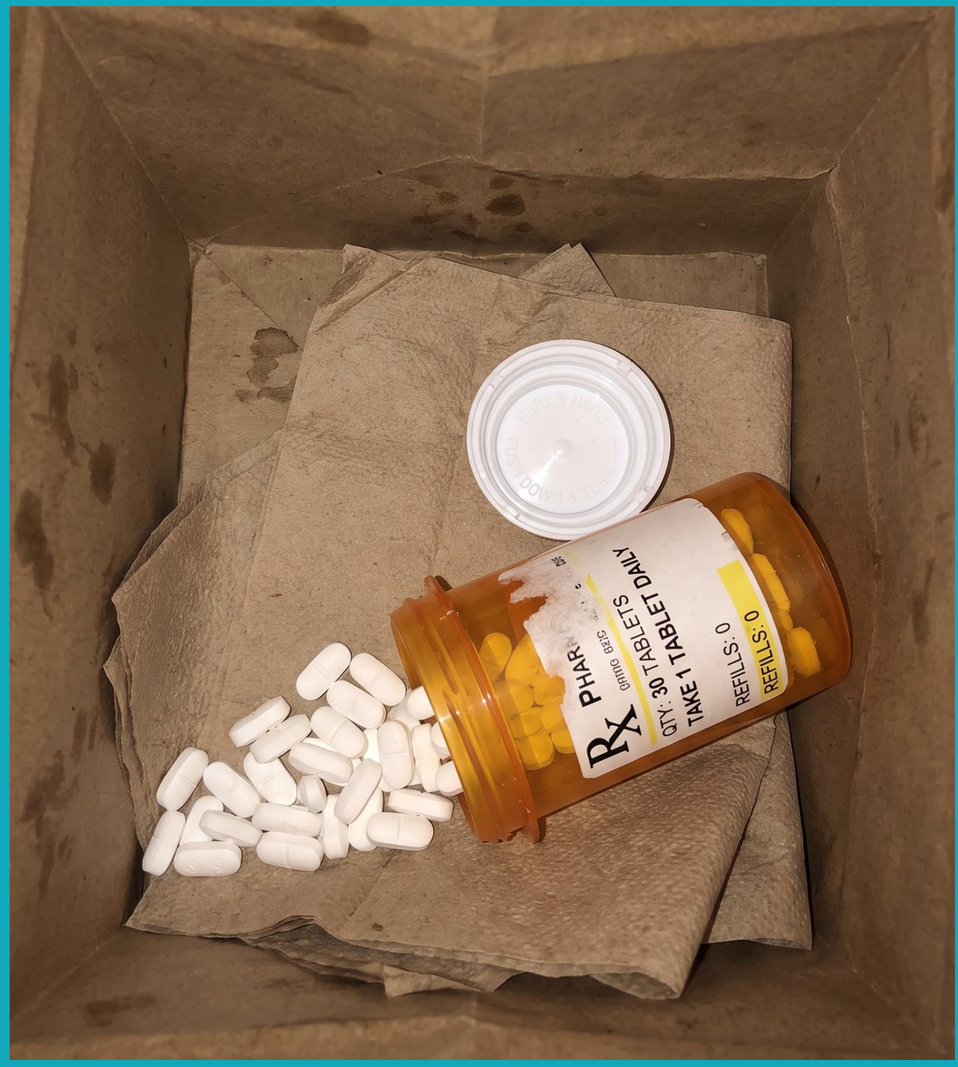


Why not put the meds in the envelope? (Mail Order)



Why not put the meds in the envelope? (Mail Order)





Why not put the meds in the envelope? (Mail Order)

Community Pharmacies are more than a place to pick up prescriptions

- Timely Medication Access
- Medication Safety and Guidance
- Preventive and Chronic Care
- In person vaccination and testing



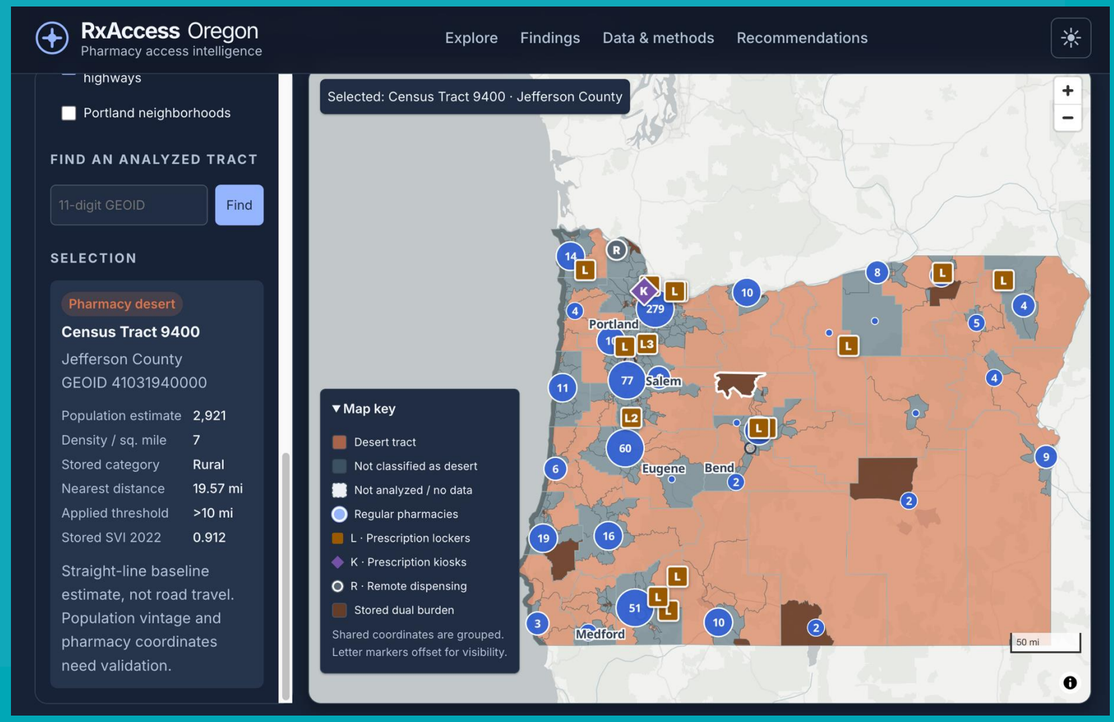


Your ZIP Code should not determine your access to care

Closing the GAP mean more then just delivering meds. It ensures that EVERY community has access to the medications, pharmacist expertise and the services needed to keep our communities healthy.

Thank you!
Questions?

Is your neighborhood a Pharmacy Desert?
← Scan here to find out!



Brandon San, MBA, MSHI, PharmD Candidate 2027
Pacific University School of Pharmacy
University of Illinois Chicago College of Applied Health Sciences
bran@pacificu.edu

References

Adkins K, Kenaga D, Sullivan-Holmes J. Pharmacy-related syringe access barriers: an audit of Oregon community pharmacies. Harm Reduct J. 2025;22(1):40.

AMCP Foundation. Emerging trends in pharmacy operations: perspectives on the 2024 AMCP Foundation Survey. J Manag Care Spec Pharm. 2025;31(1):S6–S15.

Berenbrok LA, Tang S, Gabriel N, et al. Locations and characteristics of pharmacy deserts in the United States: a geospatial study. Health Aff Scholar. 2024;2(4):qxae035.

Goeres LM, Hua L, Robitaille B, et al. Pharmacists and community health workers improve medication-related process outcomes among Cambodian Americans with depression and risk for diabetes. Res Social Adm Pharm. 2021;17(9):1568–1577.

Hernandez I, Qato DM. Advancing pharmacy access research: the case for a pharmacy vulnerability index. Health Aff Scholar. 2024.

Kenzie ES, Campbell J, Seater M, et al. Goal alignment and unintended consequences of accountable care: how the structure of Oregon's Medicaid coordinated care model shapes health plan–clinic partnerships. J Clin Transl Sci. 2025;9(1):e46.

Luo J, Feldstein D, Goss L, et al. Social determinants of pharmacy deserts in Los Angeles County. J Racial Ethn Health Disparities. 2021;9:1570–1580.

Mathis WS, Berenbrok LA, Kahn PA, Appolon G, Tang S, Hernandez I. Vulnerability index approach to identify pharmacy deserts and keystone pharmacies. JAMA Netw Open. 2025;8(3):e250715.amazon+1

Pinoliar A, Ellis G, Boman-Davis M, Westling E. Enhancing future health equity plans: insights from an evaluation of public health equity resources in Oregon. Health Equity. 2024;8(1):26–31

Rozenblum L, Gonzalez-Gil ME, Rein DB. The "crux of the community": a qualitative focus group study of the impact of community pharmacy closures in Colorado and Utah. Ann Pharmacother. 2025.

von Elm E, Altman DG, Egger M, et al. The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) statement: guidelines for reporting observational studies. Ann Intern Med. 2007;147(8):573–577.

Wisseh C, Hildreth K, Marshall J, et al. Pharmacy accessibility and social vulnerability. JAMA Netw Open. 2024;7(7):e2424667.

The Dr. John Saultz Endowment Fund

- The Dr. John Saultz endowment fund was launched to support Oregon health care students with travel and housing costs during rural rotations and other educational needs.
- Funds support the education and experiences that increase their likelihood of future practice in rural Oregon.
- AHEC Scholars spent more than 20,000 hours on clinical rotations in rural and underserved Oregon communities in 2025. Not all schools cover housing and mileage is paid out of pocket.