



Colorado All Payer Claims Database (CO APCD)

Research Showcase

September 25, 2025



CENTER FOR IMPROVING
VALUE IN HEALTH CARE

Agenda

- CIVHC and CO APCD Overview
- Lauren Harvey and Emery Shekiro will share a brand-new interactive dashboard designed to increase dental access and usability.
- Jack Westfall will provide an in-depth analysis of health care in rural Colorado and opportunities for local expansion.
- Greg Smith will present on health care cost savings identified through real-world claims data.
- Andrew Shermeyer plans to share insights on the impact of the Colorado Option on behavioral health utilization and costs.
- Additional Resources
- Ways to Partner with Us



Housekeeping

- All lines are muted
- Please ask questions in the Chat box, Q&A after each presentation
- Webinar is being recorded
- Link to the recording will be posted on the Event Resources page at: civhc.org





Who We Are



CENTER FOR IMPROVING
VALUE IN HEALTH CARE

Our Mission

To equip partners and communities in Colorado and across the nation with the resources, services and unbiased data needed to improve health and health care.

Our Vision

Everyone has the opportunity to be healthy and has access to equitable, affordable, high-quality health care.

We Are

- Non-profit
- Independent and objective
- Service-oriented



Who We Serve

Change Agents

Individuals, communities, or organizations working to lower costs, improve care, and make Colorado healthier.



How We Serve

Administrator of the Colorado All Payer Claims Database



Public CO APCD Data

Identify opportunities for improvement in your community through interactive reports and publications



Non-Public CO APCD Data

License data from the most comprehensive claims database in CO to address your specific project needs

- Analytic Services
- Research & Evaluation Services
- Program Focus Areas: Advance Care Planning, Palliative Care
- Community Engagement



What's in the CO APCD



1.3+ Billion Claims (2013-2024)



33 Commercial Payers* + Medicaid & Medicare
(FFS and Advantage)



Trend information (2013-Present)



70% of Covered Lives (medical only, 2023)



5.7+ Million Lives*, Including 1M (50%) of self-insured

**Reflects calendar year 2023 payers only*

What's not in the CO APCD



Federal Programs - VA, Tricare, Indian Health Services



Majority of ERISA-based self-insured employers



Uninsured and self-pay claims

Showcase Presenters



Lauren Harvey,
Colorado Dental Association



Emery Shekiri, MPH,
CIVHC



Andrew Shermeyer,
University of Minnesota



Greg Smith,
Healthcare Price Partners



John (Jack) Westfall, MD, MPH,
DARTNet Institute

Welcome Lauren Harvey and Emery Shekiro





Commercial Dental Health Analysis

Lauren Harvey, Colorado Dental Association

Emery Shekiri, MPH, CIVHC

September 25, 2025



Purpose

Oral health is a vital part of overall well-being—impacting everything from nutrition and speech to chronic disease and quality of life. This interactive dashboard, developed by CIVHC in partnership with the Colorado Dental Association, provides a clear picture of dental care in Colorado using **commercial claims** data from 2022 to 2024 from the Colorado All Payer Claims Database.

The data in this dashboard will promote a greater public understanding of dental care utilization and demographic trends, and can inform oral health policy to support meaningful treatment for Coloradans.



Use Case Examples

Consumer and Non-profits: Spot disparities in dental care and strengthen funding proposals. Turn data into insights that empower communities and drive change.

Government Agencies and Policy Makers: Evaluate commercial dental trends to uncover access gaps and guide strategic partnerships. Use findings to support broader oral health efforts.

Providers: Identify gaps in preventive care, engage underserved patients, and compare your payments to peers. Use insights to support integrated, whole-person care.

Methodology

- Analysis includes 2022–2024 commercial dental claims from the Colorado All Payer Claims Database (CO APCD).
- Explores trends in utilization, costs, and demographics using detailed CDT (Current Dental Terminology) codes.
- The dashboard also breaks down the cost of care by:
 - **charge amount**
 - **allowed amount**
 - **out-of-pocket costs**
 - **insurance payments**



Colorado Dental Health Analysis – Dashboard Demo

<https://civhc.org/get-data/public-data/dental-health-analysis/>



Welcome John (Jack) Westfall

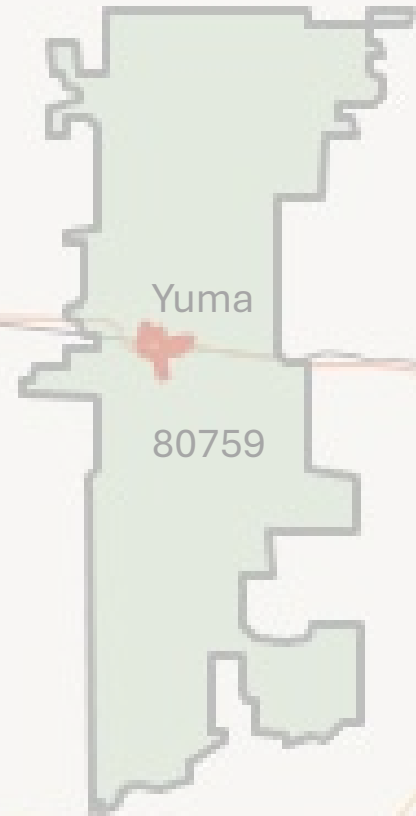


80759

**Aligning community healthcare needs,
clinical services, and workforce.**

Jack Westfall, Gabriela Gaona
DARTNet Institute

Aurora, Colorado and all over the United States

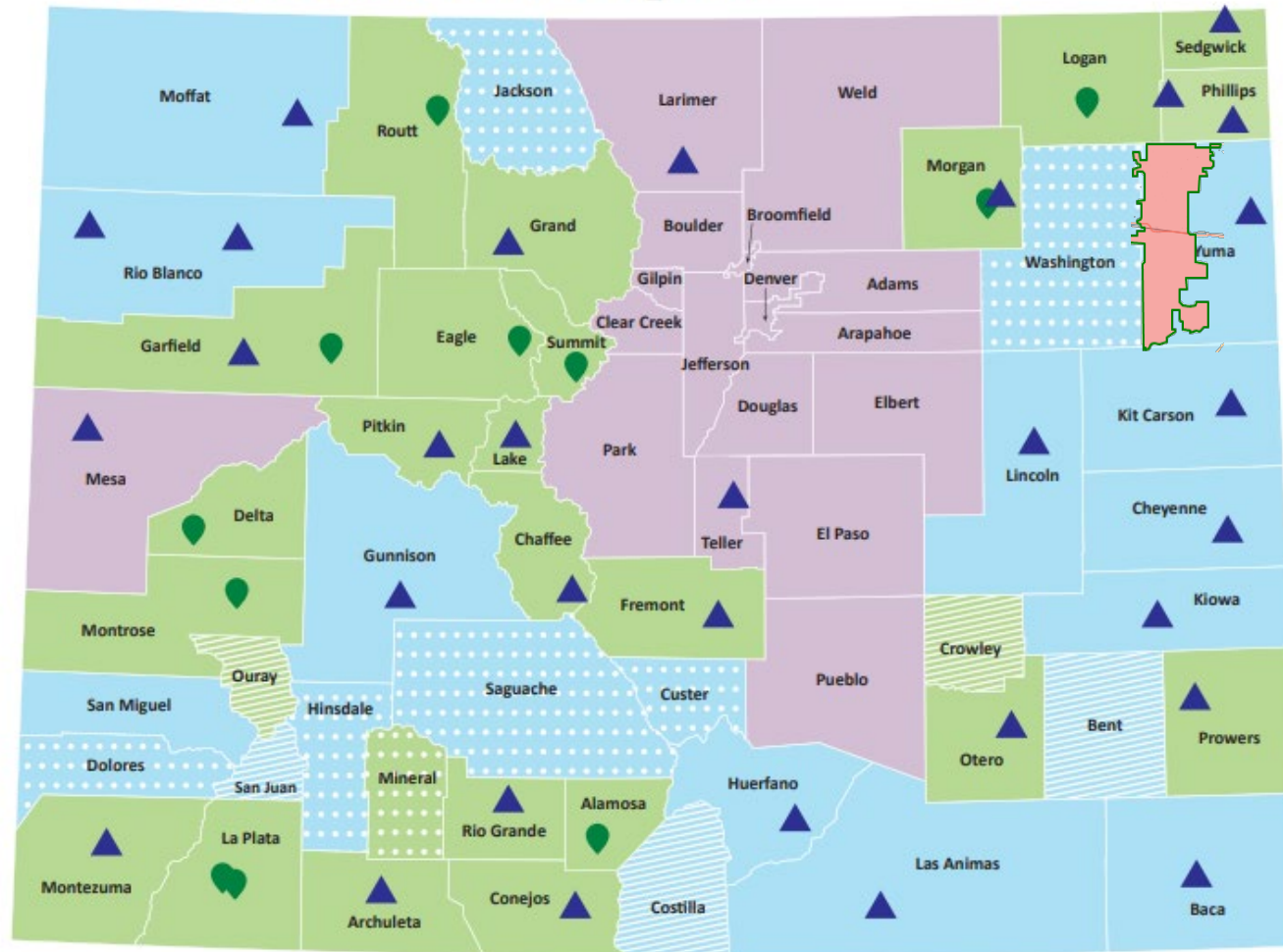


Land Acknowledgement

- I grew up in eastern Colorado and want to acknowledge and honor the legacy of eastern Colorado indigenous people who cared for this land for generations, are mostly displaced but continue to work and care for land far removed from their place of origin. (Pawnee, Arapahoe, Cheyenne, Apache, Osage) I recognize that colonialism and the oppression of Native peoples is a current and ongoing process, and I commit to building our awareness of our present participation. We can all pay our respects to the elders past and present. We honor with deep gratitude this land and all it gives us.
- Eastern Colorado is the home of the Sand Creek Massacre in the latter half of the 19th century. In a moment of silence, we honor all those who died and recommit to doing what we can today to hold their memory as we seek reconciliation and new ways to live peaceably and respectfully.

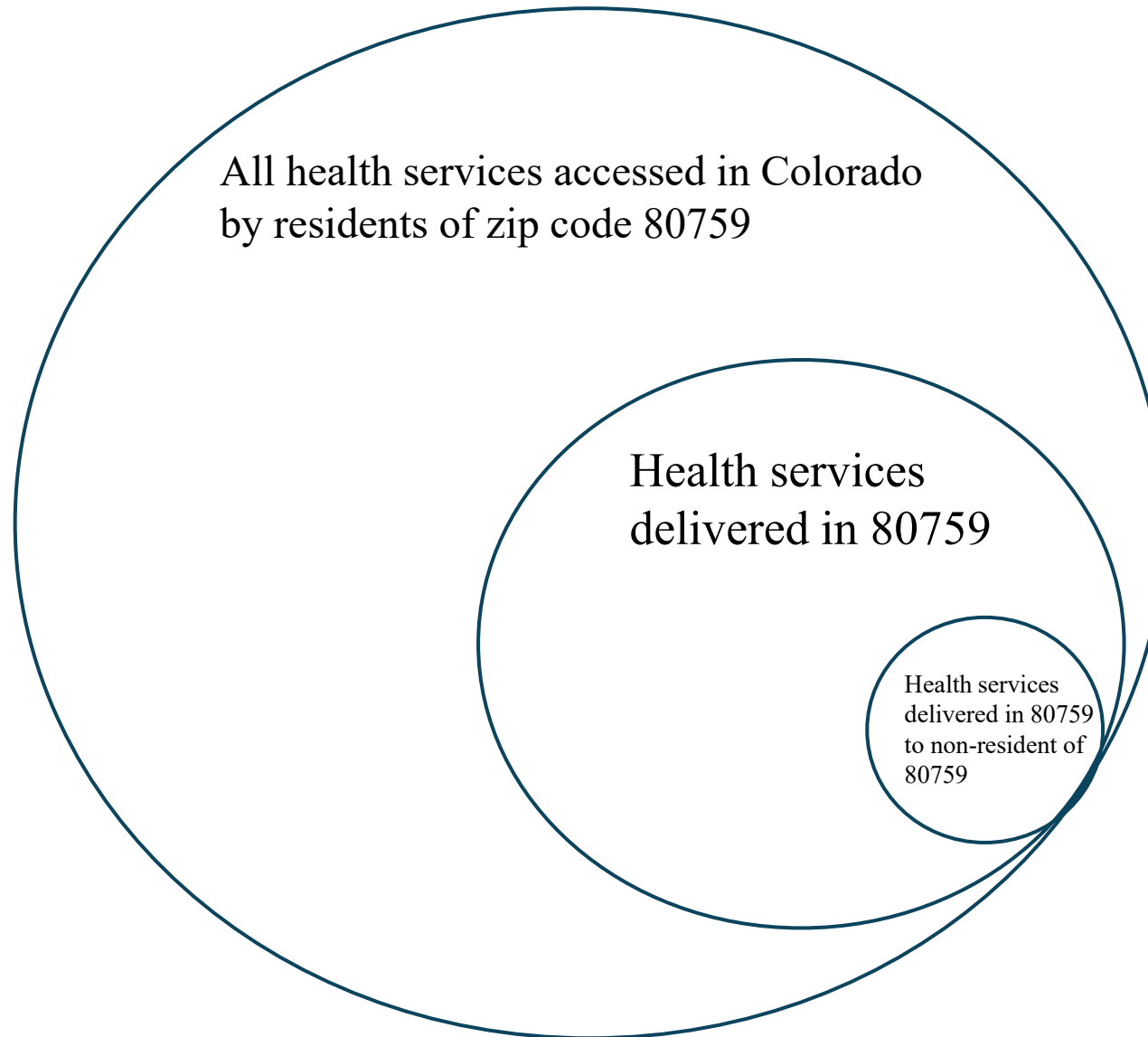
<https://www.sandcreekmassacrefoundation.org/history>

Map of Colorado Rural and Critical Access Hospitals



- ▲ CRITICAL ACCESS HOSPITAL
- RURAL HOSPITAL
- URBAN
- RURAL
- FRONTIER
- NO HOSPITAL
- /// NO HOSPITAL OR CLINIC

Aligning Health Service with Community Need - Zip Code 80759



- **Context:** Rural communities face a host of healthcare issues related to access, lower rates of insured patients, lower income, and scarce workforce. Rural practices face barriers to delivering both primary and specialty care. Many communities may not have data on the breadth and depth of services needed by their community, while some patients may bypass their locally available services to obtain care in another town or urban facility. Understanding the scope of services accessed by local residents and the scope of services available in the community may offer local leaders information to improve strategic planning, service delivery, and workforce recruitment

- **Objective:** Describe the breadth and volume of healthcare services obtained by residents of one rural zip code and where these services were delivered. We sought to answer the following 3 questions: 1) What services are accessed by patients living in one community? 2) Where are clinical services obtained by those patients? 3) Who provides clinical services to those patients?

Yuma, CO

CO Hwy 34

CO Hwy 59





Photo by Jimmy White

- **Study Design and Analysis:** Using the Colorado all-payor claims data for 5 years, (2018-2022) we analyzed all services obtained within Colorado by residents of zip code 80759, and all services delivered within 80759, regardless of the zip code of the person receiving services. Services were stratified by whether they were delivered in the same zip code, or elsewhere, by type of service(ICD10, CPT, E&M), and clinician specialty. **Population studied:** Residents of Colorado zip code 80759, population 4600. **Outcome measures:** Services delivered in 80759 and services obtained by residents of 80759



- 5294 residents of 80759 received care over a 5 year period
 - 3359 received some care in 80759
 - 1945 received no care in 80759 but some care outside 80759
- Radiology is almost all listed as outside 80759 despite being done in the hospital. All radiology reading is done outside the facility. This accounts for about half of the 1945 noted above

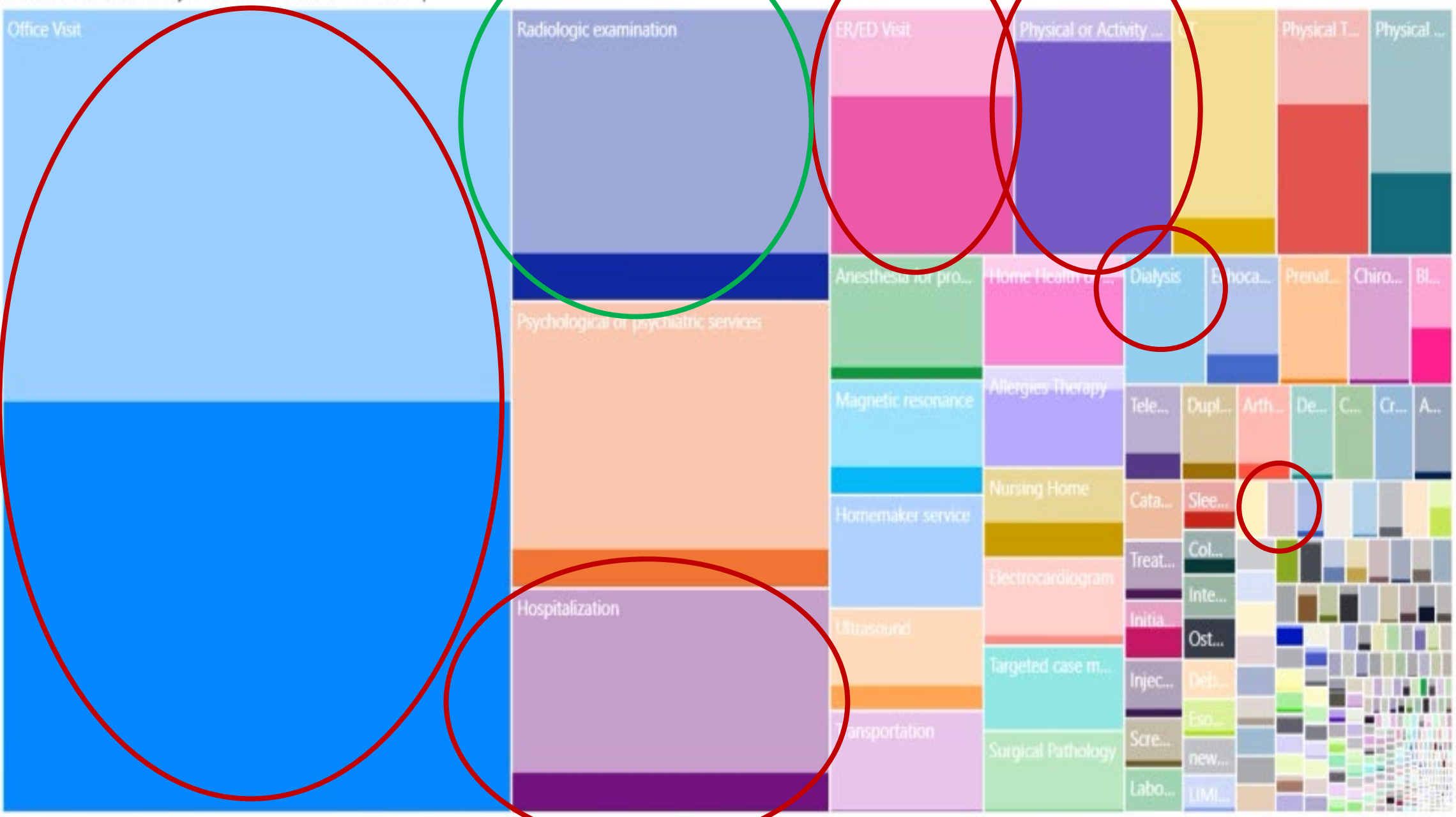




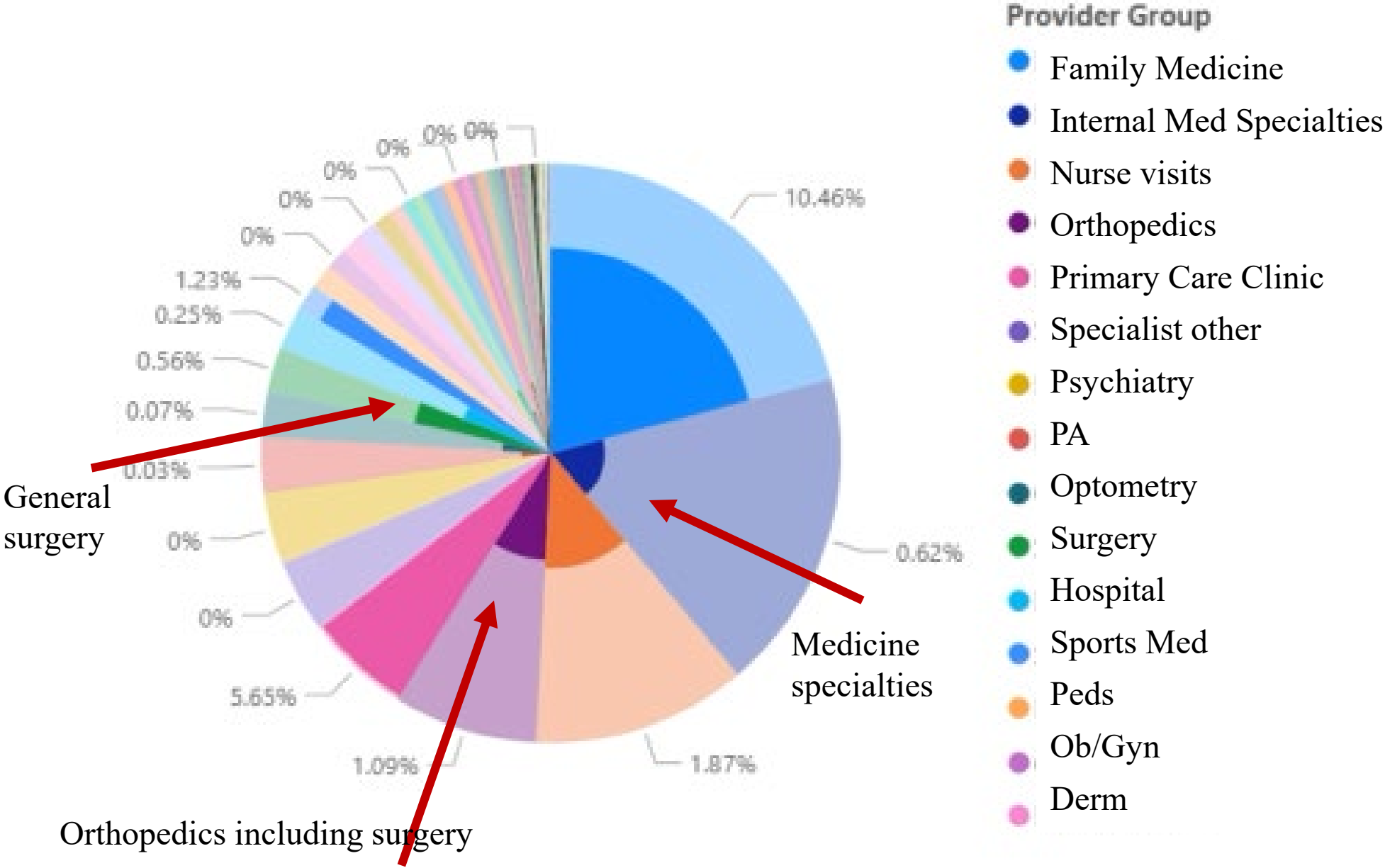
- **Results:** Each year there were about 18,360 services/visits for patients living in zip code 80759: 6500 office visits, 1100 hospitalizations, 1500 radiologic exams, 700 ER visits, 150 echocardiograms, 55 cataract surgeries, and 40 deliveries (and hundreds of other specific services).

- Figure 1 provides a heat map of all visits by type and location. Overall, about 35% of services were provided within 80759. Location of services varies among service type; for this analysis location was defined as within or outside of 80759.
- For example, half of ambulatory primary care was obtained within 80759 (50%), while all maternity care was obtained outside 80759. Similarly, all dialysis was done outside 80759.
- However, 65% of ER visits and 87% of physical therapy visits for patients living in 80759 were done within 80759. While numerous residents were hospitalized in the local hospital (200 per year), most hospitalizations occurred outside 80759 (82%).
- Wide variation of location was found for specific service, procedure, and diagnosis types. Percent of visits done within 80759: Orthopedic surgery 18%, abscess drainage 76%, allergy treatment 77%, annual wellness visit 89%, ultrasound 24%, echocardiogram 23%.
- Interestingly, while many of the radiologic studies were done at the hospital in 80759, because the radiologist service reading the films is in an urban community, it is difficult to confirm the location of actual service using the All-Payor Claims Data.

Sum of Visit Count by Service or Procedure Group



Sum of Visit Count by Provider Group

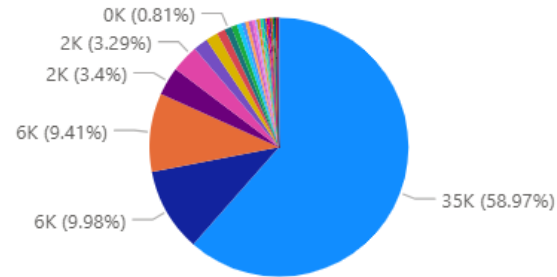


- Most patients obtained their orthopedic surgery in another community, even though the same procedures were also done in the local facility. This phenomenon was found for multiple specialty visits/procedures including endoscopy, ambulatory surgery, and various specialty visits. For ambulatory office visits (6500 per year), family physicians provided about 21% of all office visits (50% within 80759), followed closely by internal medicine (mostly internal medicine subspecialties) at 18% (but only 3% within 80759), and advanced practice nurses at 12% of visits (majority outside 80759). Orthopedic specialists were, by far, the largest percentage of specialty office visits at 8% total.

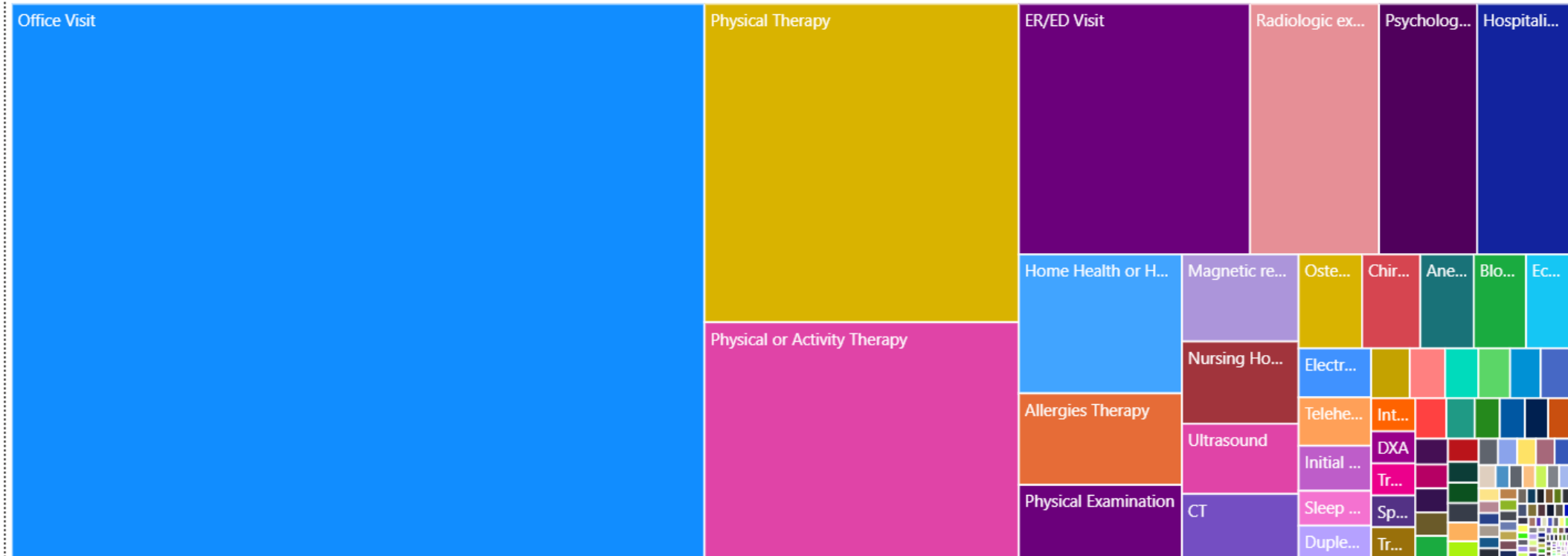
All care provided in 80759

Sum of Visit Count by Person Zip

Person Zip 80759 80720 80743 80758 80727 80812 80822 80751 80824 80801 80701 80731 80723



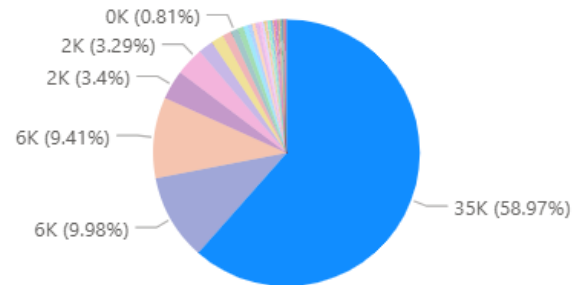
Sum of Visit Count by Service or Procedure Group



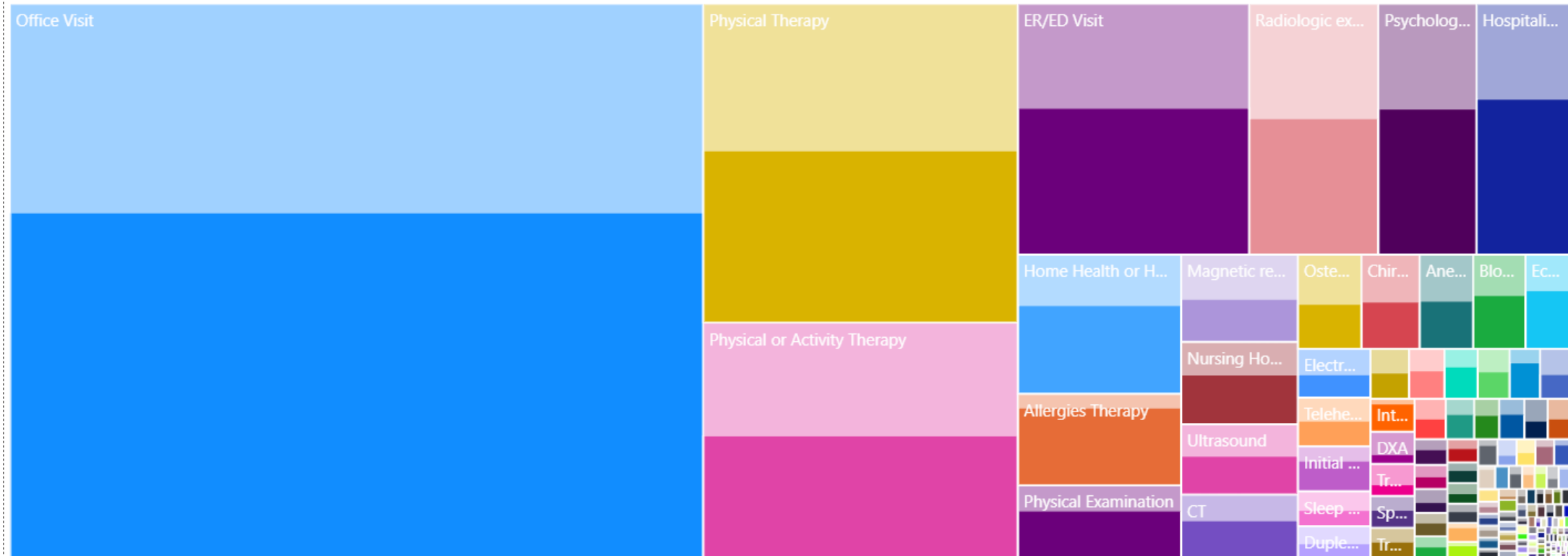
80759 v all other zipcodes

Sum of Visit Count by Person Zip

Person Zip ● 80759 ● 80720 ● 80743 ● 80758 ● 80727 ● 80812 ● 80822 ● 80751 ● 80824 ● 80801 ● 80701 ● 80731 ● 80723



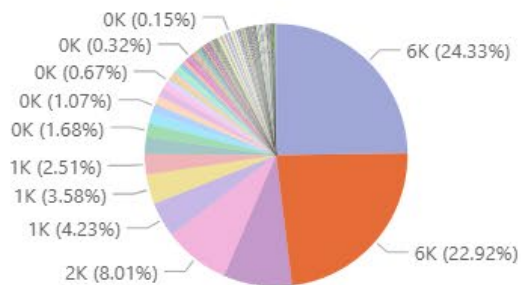
Sum of Visit Count by Service or Procedure Group



80743 Otis

Sum of Visit Count by Person Zip

Person Zip 80720 80743 80758 80727 80812 80822 80751 80824 80801 80701 80731 80723 80501 ▶



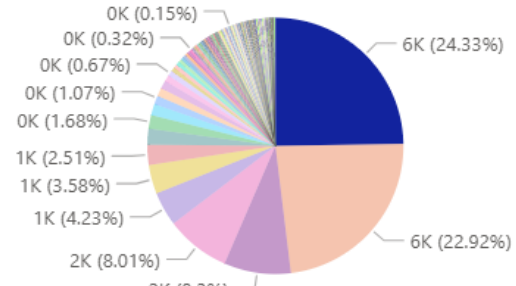
Sum of Visit Count by Service or Procedure Group



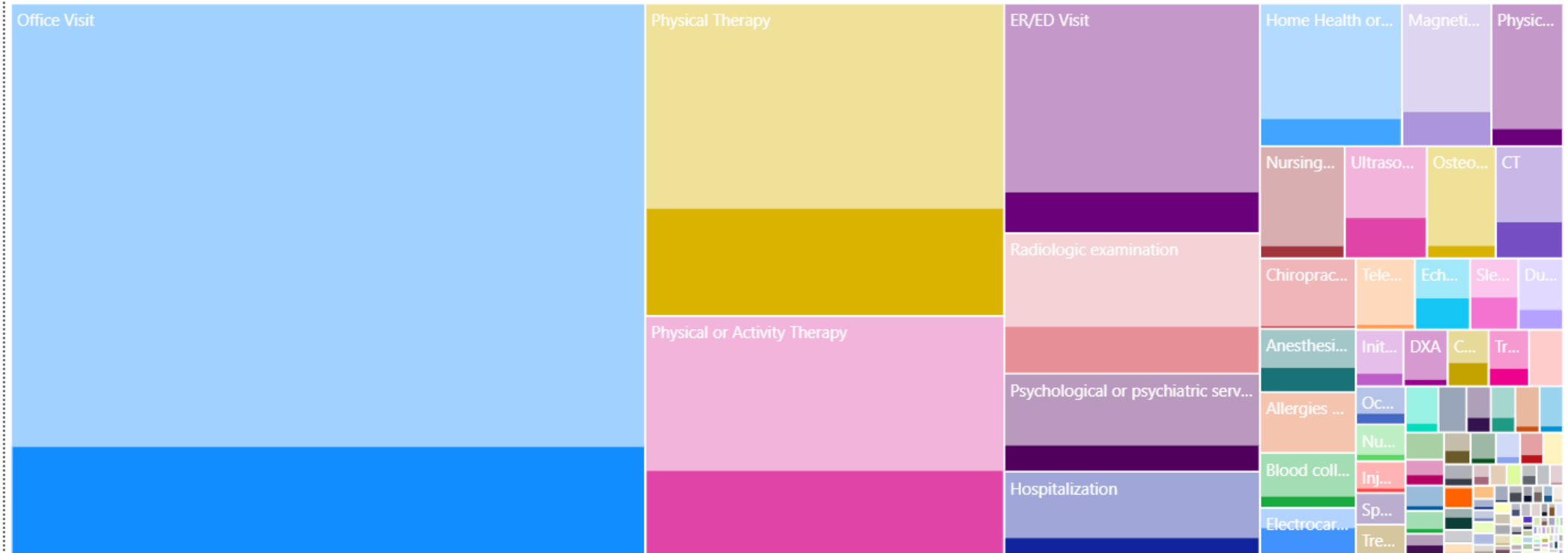
80720 Akron

Sum of Visit Count by Person Zip

Person Zip ● 80720 ● 80743 ● 80758 ● 80727 ● 80812 ● 80822 ● 80751 ● 80824 ● 80801 ● 80701 ● 80731 ● 80723 ● 80501 ▶



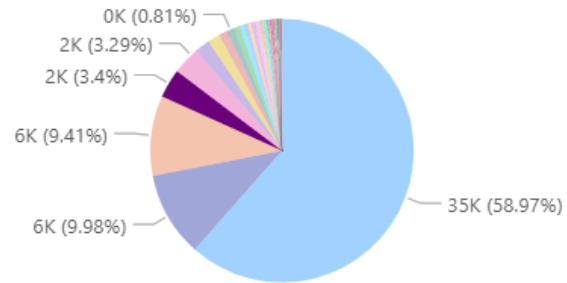
Sum of Visit Count by Service or Procedure Group



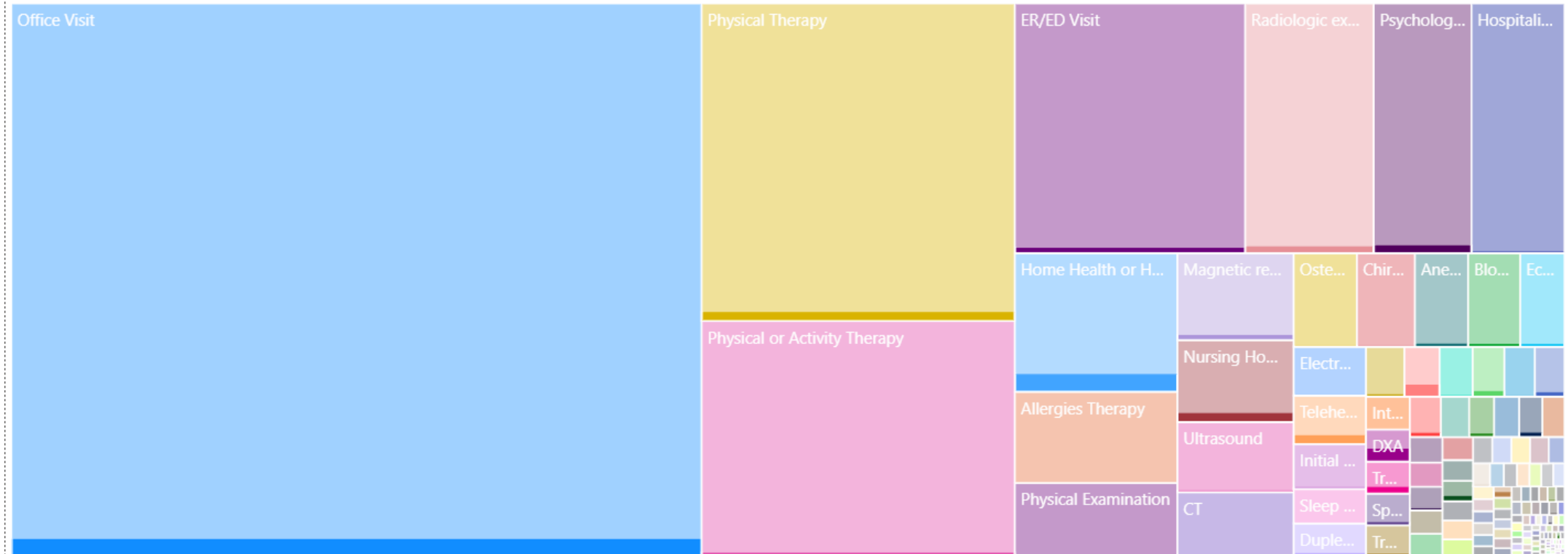
80758 Wray

Sum of Visit Count by Person Zip

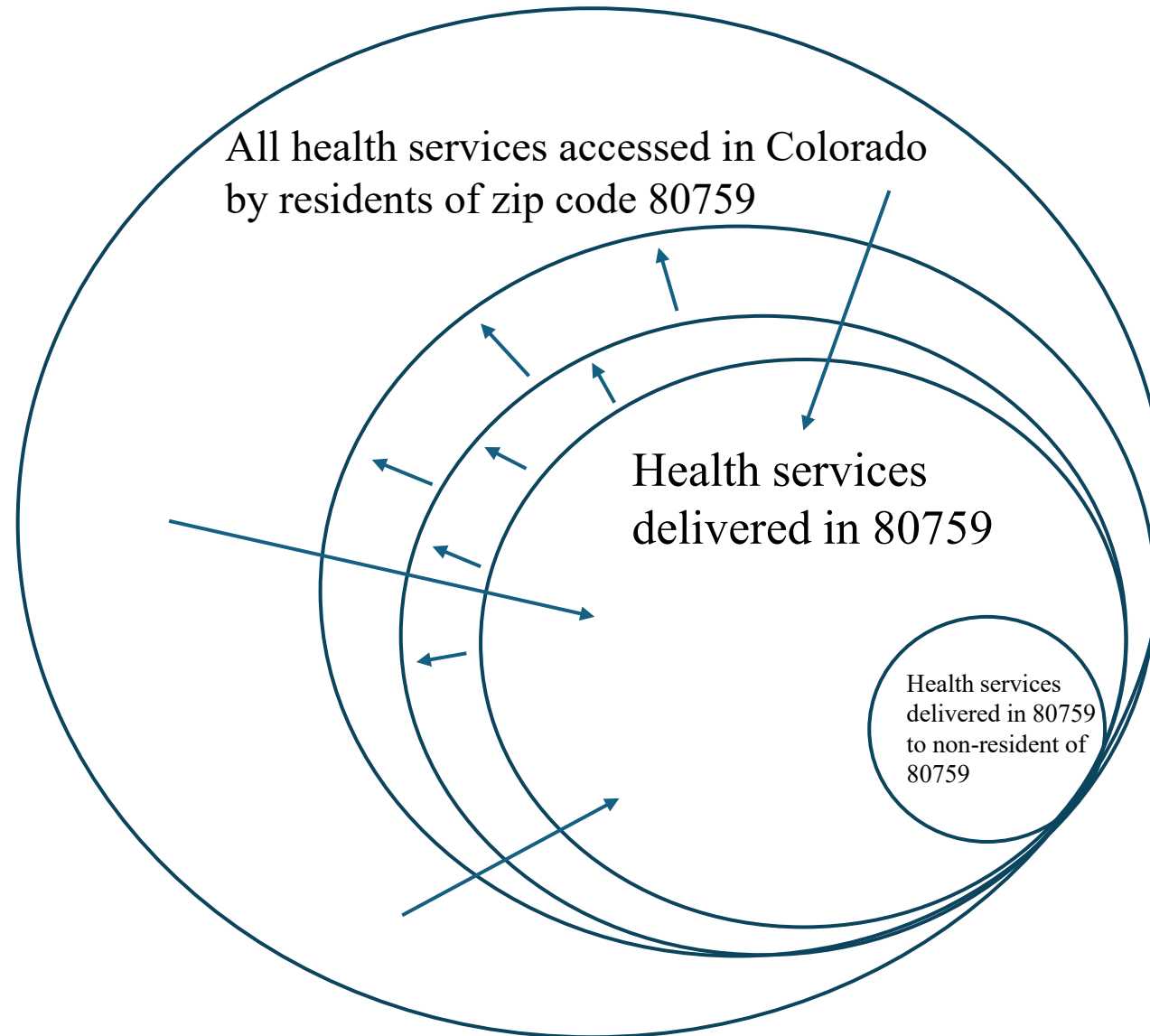
Person Zip 80759 80720 80743 80758 80727 80812 80822 80751 80824 80801 80701 80731 80723 ▶



Sum of Visit Count by Service or Procedure Group



Aligning Health Service with Community Need - Zip Code 80759



- Maximizing local access
 - Primary care
 - Specialty care
 - Orthopedic surgery
 - General surgery
 - ?

- **Conclusion:** Analysis of healthcare services obtained by a specific cohort defined by home zip code offered insights into service delivery.
- Many services were obtained mostly within the same zip code (ER, PT).
- There were a significant number of services that were only completed outside the local zip code (maternity care, dialysis).
- However, there were a number of services (surgery, specialty consults, primary care) that were delivered both within and outside the zip code.
- A substantial amount of ambulatory care for patients who live in 80759 is received in another community. Primary care is an example with an opportunity to increase local access by assuring adequate staffing, flexible clinic schedules, and even local marketing.
- It is unlikely that rural hospitals will take on complex medical or surgical conditions, however, it may be possible to increase local access to common specialty ambulatory and specialty care by increasing specialty staff or visiting clinicians.
- Comparing the healthcare needs of the community with the services delivered within the community may offer insight into service expansion, service focus, and workforce recruitment.

What's next?

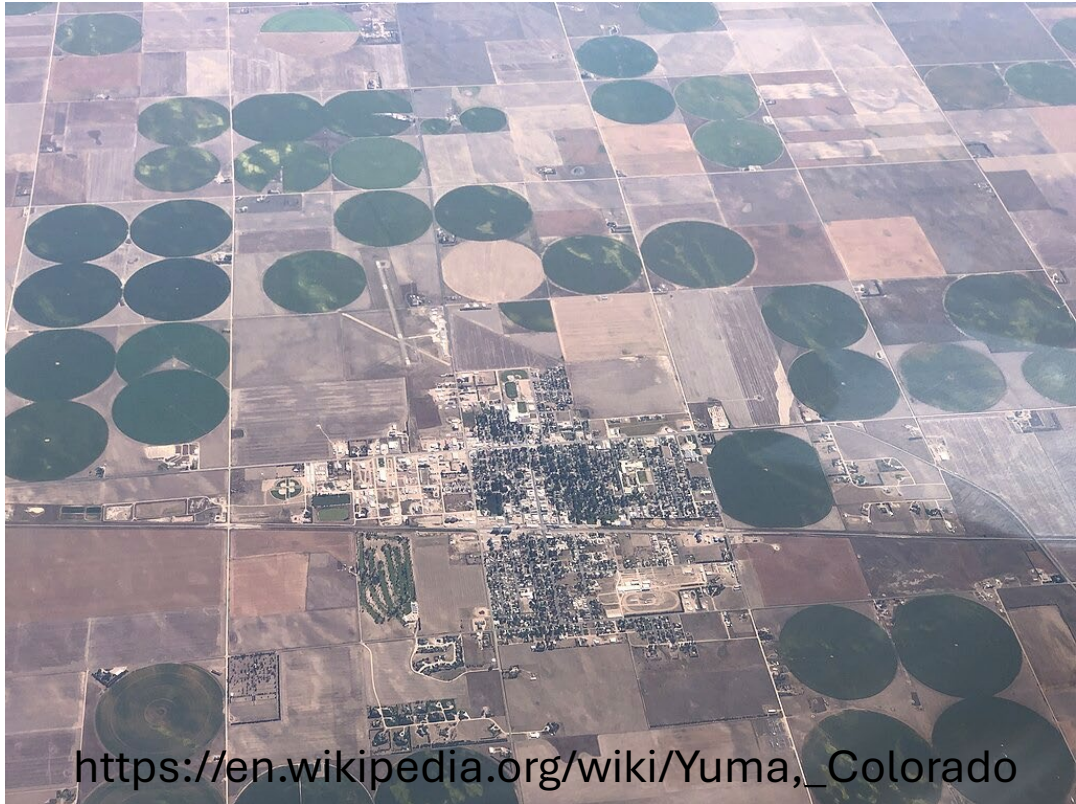
- Identify the catchment area for 80759.
 - Several adjoining zipcodes rely heavily on services provided within 80759
- Identify the top service lines with a mixture of care received inside and outside 80759
 - How to move more services into 80759
 - How to capture more services from neighboring zipcodes
- Identify the scope of work for clinicians within 80759 to identify opportunities for maximizing access to service.
 - Recruiting the best workforce for local needs
- Complete this analysis for additional rural communities. What are the unique service needs for other rural communities?

- Analysis – 5 year's data 2018-2022
 - All claims/services for any person with an address that includes zip code 80759.
 - All claim/services that were completed in zip code 80759, regardless of the person's address.
- Retrospective, descriptive study. No control group. Feasibility study using a single zip code in rural Colorado. Numerator – number of people, number of services. Denominator – population of 80759.
 - Describe the breadth and volume of all the health care services obtained by residents of zip code 80759 (sum of services by type, variation by patient demographics and payer type)
 - Describe the location of services. Where did residents of 80759 obtain health care services? Primary care, hospital care, specialty care, surgical care, preventive care. (Sum of services by location, within 80759 v outside 80759, variation by patient demographics and payer type)
 - Describe the clinical providers for services delivered in 80759 and outside of 80759. Describe the provider breadth and volume of services. (Who provides what services, specialty, license)
 - Identify services that are provided within 80759 and determine the frequency (#, %) that are obtained outside of 80759. (What services are always done outside 80759 [heart surgery], services that are done within 80759 and outside 80759 [colonoscopy], services that are rarely done outside 80759 [vaccination]).

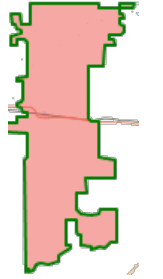
- Describing local services and the alignment or mismatch between health service availability and community need offers opportunity to:
 - Inform the local health service providers, hospitals, practices, community leaders about their health services.
 - Provide opportunities for clinical service re-alignment, program development and clinical service deployment.
 - Inform urban health systems about rural community needs to improve support and outreach.
 - Inform healthcare workforce needs, recruitment, and retention.
 - Inform state policy makers about rural health services availability and community need.

- All claims for people with a zip code of 80759 - by cpt and icd10 codes,
-
-
- What services are needed? Based on all services obtained by anyone with 80759 address.
- Where are services delivered? Based on service delivery address zip code.
- Who is providing services? Within 80759 and elsewhere.
-
- Frequency of claims
- Breadth of claims delivered in 80759
- Frequency (volume) of claims delivered in 80759
-
- % people from 80759 who got all their care in 80759 and breadth of service
- % of people from 80759 that got some care elsewhere
- % of people from 80759 who got services elsewhere that were also available in 80759
-
- Do all the above for total services, primary care services, hospital and specialty services.

- Who is providing services (MD/DO, NP, PA, psych, soc work, any billing professional)
- Specialty of folks delivering services within 80759 (primary care, specialists, etc)
- For 80759 what is the breadth of services delivered by each provider type?
- For 80759 what is the volume of services delivered by each provider type?



https://en.wikipedia.org/wiki/Yuma,_Colorado



https://en.wikipedia.org/wiki/Yuma,_Colorado



<https://cityofyuma.colorado.gov/>



Map of Colorado Rural and Critical Access Hospitals



- ▲ CRITICAL ACCESS
- URBAN
- NO HOSPITAL

<https://cha.com/issues/rural-l>





<https://www.landsat.com/yuma-colorado-aerial-photography-map.html?srsId=AfmBOooZfxz0jDMpE9d2bv5sClgT6GoD6MRcfd8JCoRI7CZr6Jzm89Gl>

Welcome Greg Smith



Healthcare Price Transparency – An Opportunity To Reduce Healthcare Costs?



September 2025

Current State



The Affordable Care Act of 2010: Federal Government could require health care procedure prices be disclosed

- Between 2019 and now, new regs required hospitals and insurance companies to publicly post pricing data
- Various studies estimate savings of up to 40% if used
- Yet today consumers rarely if ever attempt to compare prices

Why?

- Data is incomplete, confusing, overwhelming
- Prices are not binding
- Health insurance plans don't offer price-shopping benefits

Is there a way forward so that consumers can compare and save?

Free Markets and Healthcare

- Free Market (frē 'märkət/) *noun*: “an economic system in which prices are set by unrestricted competition between privately owned entities” (Webster)
- Healthcare prices are insulated from market dynamics
 - No control of demand; when it breaks it must be fixed
 - Intermediaries impede/negate price competition
 - Diagnosing intermediaries (physicians)
 - Financial intermediaries (insurance companies) insulate from costs, but also from benefits of price shopping

Common Price Control Strategies are Not Available to Consumers in Healthcare

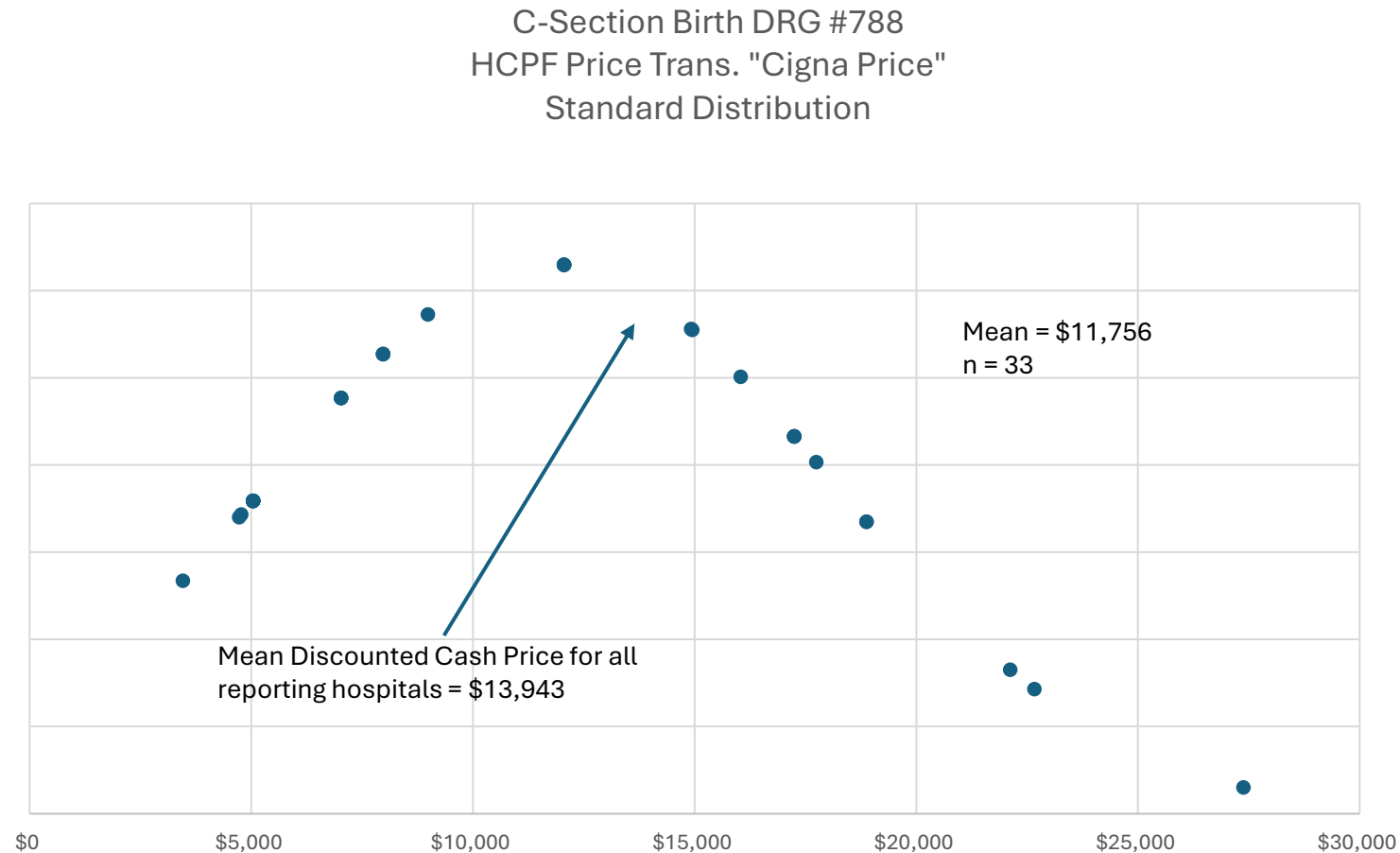
U.S. Household Spending*	% of Aver.	Compare Prices	Negotiate Prices	Substitute	Decrease Quality	Decrease Quantity	Convenience/Availability**
Housing	33%	✓	✓	✓	✓	✓	✓
Transportation	16%	✓	✓	✓	✓	✓	✓
Health Care	14%	✗	✗	✗	✗	✓	✗
Food	13%	✓	✗	✓	✓	✓	✓
Other	24%	✓	✓	✓	✓	✓	✓
	100%						

✓ Factor available
✗ Factor not available or not used

* Bureau of Labor Statistics
** e.g. Consumer may exchange convenience for price

The Landscape: Pricing is Variable

An insurer will pay different amounts at different hospitals for the same procedure



A way forward?

- Analysis of spending patterns – Colorado only
 - Using claims data from the Colorado All Payer Claims Database (CO APCD):
 - Average annual out-of-pocket spend: \$1,400 per person (with one or more claims)
 - The CO APCD data suggests significant (25% to 40%) savings by “shopping”
 - Consistent with other studies estimating savings up to 40%
- Consumer Demand: Market research shows 89% of consumers willing to shop for care
- Colorado is ideal for an innovative price-comparison effort
 - One of healthiest states; government and citizens care about health
 - One of the costliest states for healthcare
 - Colorado has outstanding resources – CIVHC, CO APCD, HCPF (Health Care Policy & Financing) - passion for innovation

Data sources: CO APCD, HCPF, McKinsey survey, various academic studies

What might a care price shopping tool look like?



Summary:

- Our best guess: savings of \$100 million per year in Colorado from a robust price comparison system
- Challenges
 - The tool must be easy to use and have incentives – that do not exist today
 - We must find a way 'break the financial (insurance) intermediary barrier': reward consumers who find a lower price

Welcome Andrew Shermeyer



The Effect of Eliminating Cost-Sharing on Behavioral Health Service Utilization and Affordability in Colorado

Andrew Shermeyer, MPA

University of Minnesota | Division of Health Policy & Management

CIVHC APCD Showcase
September 25, 2025



Acknowledgements

- Center for Improving Value in Health Care (CIVHC)
- Sayeh Nikpay, Lynn Blewett, Ezra Golberstein, and Aditi Sen
- The Dr. Theodor James and Brendalee Litman Scholarship



Background and Motivation

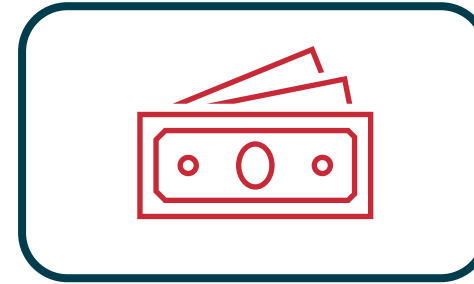
- Providing comprehensive and affordable behavioral health care is challenging
- The Colorado Option sought to encourage the use of these services by eliminating cost-sharing for them
- It is unclear if consumers responded to the \$0 copays



Research Objectives



DETERMINE IF
INDIVIDUALS ENROLLED IN
A COLORADO OPTION
PLAN UTILIZED MORE
BEHAVIORAL HEALTH
SERVICES THAN THOSE
ENROLLED IN A NON-
COLORADO OPTION
MARKETPLACE PLAN



QUANTIFY THE
DIFFERENCE AMONG OUT-
OF-POCKET COSTS FOR
BEHAVIORAL HEALTH
SERVICES BETWEEN
COLORADO OPTION AND
NON-COLORADO OPTION
MARKETPLACE
ENROLLEES



Study Design and Sample

- Retrospective cohort study
- Colorado All Payer Claims Database from 2021-2023
- **50,333** individuals aged 18-64 who were continuously enrolled in Marketplace coverage between 2021-2023
- **Treatment Group: 7,245** individuals enrolled in a Colorado Option plan in 2023
- **Comparison Group: 43,088** individuals enrolled in a non-Colorado Option Marketplace plan in 2023



Outcomes of Interest

Probability of using any behavioral health services

Amount of behavioral health services used

Average cost of behavioral health services



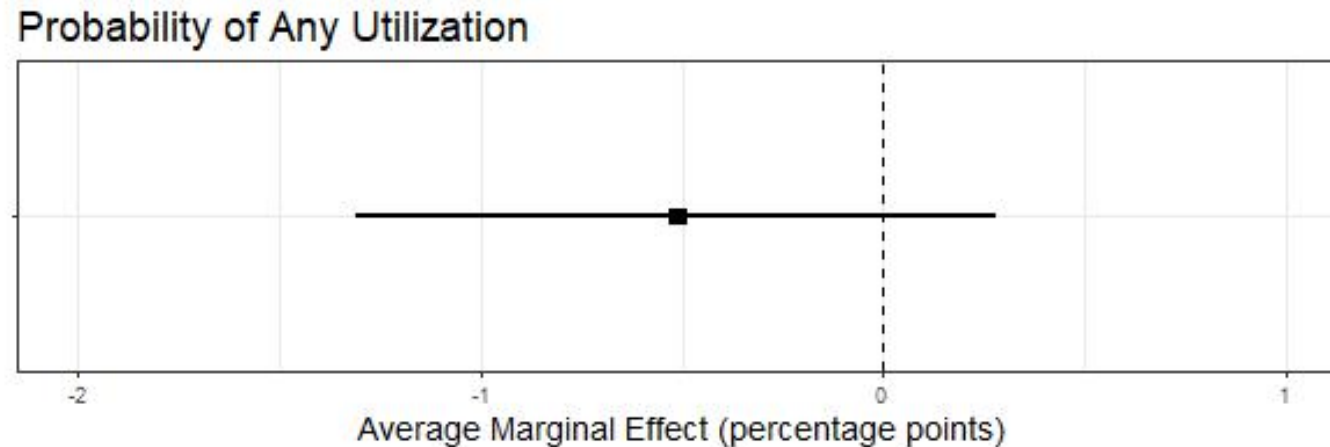
Statistical Analysis – Two-Part Model

- 1st Part (decision model)
 - Identifies the probability of using any behavioral health services based on treatment
- 2nd Part (outcome models)
 - Identifies if there is a different in the number of behavioral health services used / out-of-pocket cost of behavioral health services based on treatment
 - But only for individuals that used any behavioral health services
- Used inverse probability of treatment weighting (IPTW) to mitigate treatment-selection bias



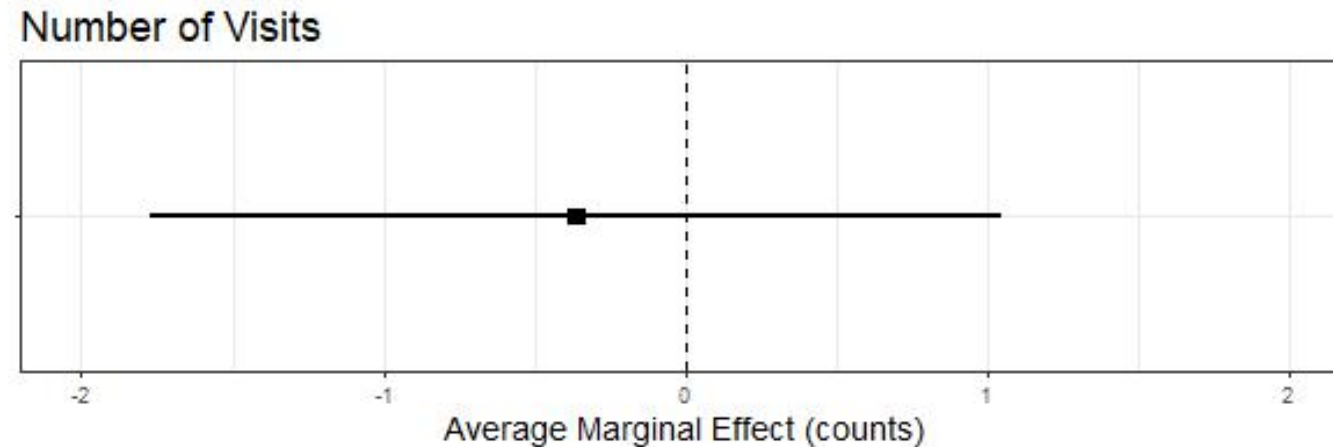
Results – Decision Model

- There was no difference between the probability of using any behavioral health services based on whether an individual was enrolled in a Colorado Option plan or a non-Colorado Option plan.



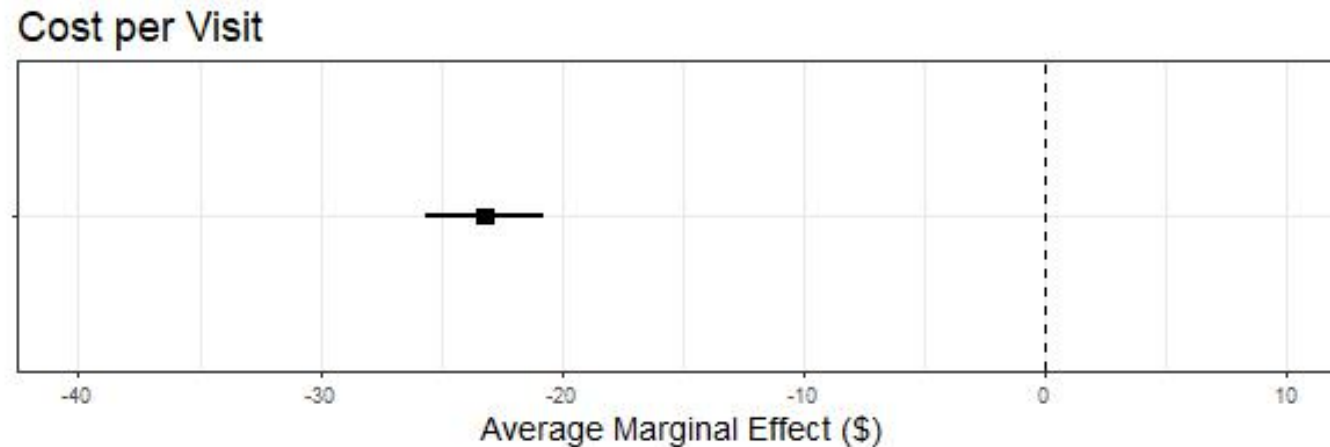
Results – Outcome Model 1 (utilization)

- Enrolling in a Colorado Option plan was not associated with an increase in the amount of behavioral health services utilized.



Results – Outcome Model 2 (cost)

- As a result of the Colorado Option eliminating cost-sharing, Colorado Option enrollees spent an average of \$23.16 less per behavioral health service than non-Colorado Option enrollees.



Why didn't utilization increase?



Reason 1: Cost isn't the only barrier



Reason 2: Context of behavioral health services



Reason 3: Competing mechanisms



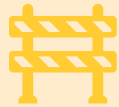
Reason 4: Awareness of health benefits



Conclusion and Future Directions



Eliminating cost-sharing reduced out-of-pocket costs by an average of \$23.16 per visit but did not increase utilization of behavioral health services.



We need to focus on 'non-price' barriers to behavioral health care



Future research should investigate how provider networks and reimbursement rates changed



Thank you for listening!

Contact Info:

sherm570@umn.edu





Questions and Feedback



Reach out to EShekiro@CIVHC.org, Lauren@cdaonline.org,
Sherm570@umn.edu, gs.tlcs@comcast.net, jack.westfalj@gmail.com
David@DenverIndianCenter.org



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