

Colorado All Payer Claims Database (CO APCD) Research Showcase

September 17, 2026





Research Showcase | 7.30.2026 | Agenda

01

**CIVHC &
CO APCD
Overview**

02

**Research
Presentations**

03

**Q&A and
Feedback**



Who We Are



About CIVHC

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:

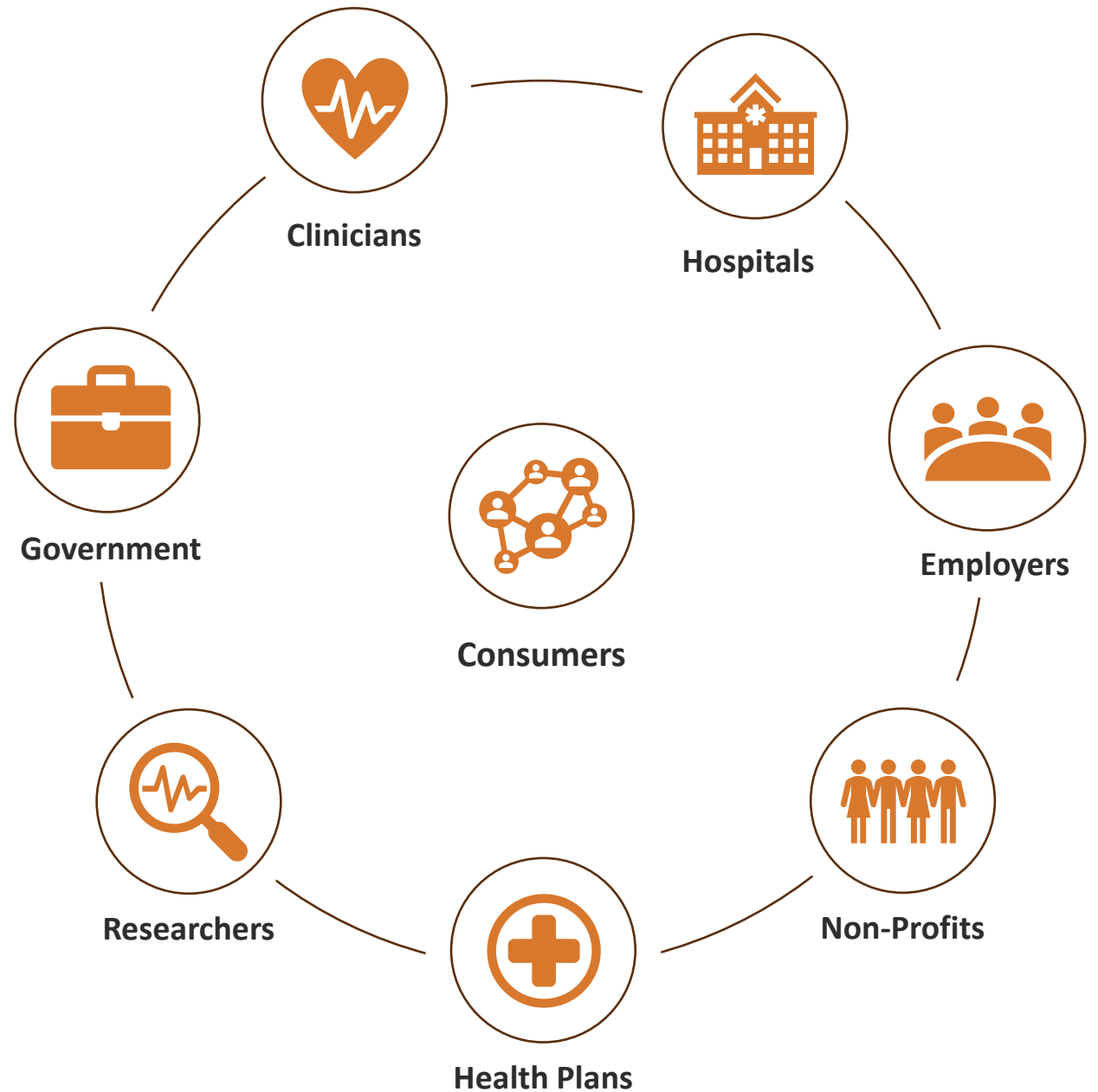
Everyone has the opportunity to be healthy and has access to equitable, affordable, high-quality health care.

We Are...

- Nonprofit
- Independent and objective
- Service-oriented

Our Partners

Individuals, businesses, and community organizations working to lower health care costs, improve care, and make Colorado healthier.



Our Products & Services



Public CO APCD Data

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



Licensed CO APCD Data

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

- Analytic Services
- Evaluation & Research
- Community Engagement
- NEW: Hospital Price Transparency Data

What's in the CO APCD



1.3+ Billion Claims (2013-2025)



70% of Covered Lives (medical only, 2024)



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



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



Trend information (2013-Present)

**Reflects calendar year 2024 payers only*

What's not in the CO APCD



Federal Programs - VA, Tricare, Indian Health Services



Uninsured and self-pay claims



Majority of ERISA-based self-insured employers

Showcase Presenters



Margaret Melville
Lasa Health



Zoe Hsu
Lasa Health



Erica Felder, PhD
Colorado Department of
Human Services



Amanda Kim
CIVHC





Welcome

Margaret Melville and Zoe Hsu



What the CO APCD reveals about chronic pelvic pain

Sept 2026



CENTER FOR IMPROVING
VALUE IN HEALTH CARE



MAYO CLINIC
PLATFORM



America's
SEED FUND
SBIR.STTR

Sprint for
Women's Health

ARPA 



TEAM

Experts in healthcare technology & clinical champions

**Margaret Melville**CEO & Cofounder
MBA**Zoe Hsu**Data Scientist
MS Computer Science

Presenters

**Chris Fortuna**

CTO

**Dr Karla Loken**

OBGYN

**Dr Megan Wasson**

Mayo Clinic OBGYN

**Lily Shanta Howlader**

Software Engineer

**Aly Callahan**

Implementation

**Dr Sara Shihab**

Mayo Clinic PCP

Lasa Health Team

PROBLEM

Diagnostic delays are the norm in women's health



10+ years
without a diagnosis

30+ doctors
looking for answers

I'm not alone.
750,000 women in Colorado
have the same experience

PROBLEM

Starting with pelvic & abdominal pain, one of the largest opportunities

1 in 4 women

suffer from 20+ pelvic & abdominal pain disorders

6-12 years

average time to
diagnose

Top 2

causes of ER visits
for women

\$2.8 B

cost to the US
healthcare system

SOLUTION

LasaClinical: Integrated seamlessly into busy clinical workflows



Data Pull

Automatically pull patient chart data through EHRs

Record Review

Analyze chart data to create personalized risk assessment

LasaClinical Report

Generate alert and report within the EHR

Clinical Review

Clinician reviews, discusses next steps (orders, referrals, etc)



SOLUTION



What changes for the patient

Answers in one visit, not one decade

The risk report arrives at the first primary care appointment, not after the thirtieth referral.

Treatment before the disease advances

Earlier diagnosis protects fertility, organ function and the chance of managing pain without surgery.

The same care at every clinic

Guideline-backed screening standardizes care regardless of which provider a woman happens to see.

Trained on millions of records in collaboration with Mayo Clinic



3 million

records from Mayo Clinic used for
initial model development



85-95%

Model accuracy across
20 conditions



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VALUE IN HEALTH CARE

Research Questions

- How do the Mayo Clinic models perform on a new dataset (CO APCD)?
- Can we build similarly performing models on a claims dataset compared to an EHR dataset?

DISCUSSION

Use of CO APCD Data

Model Training

Uses a supervised learning algorithm to associate patient features with claims-derived condition labels in historical data

Model Re-Validation

Analyze model performance to CPP screening models on Colorado population with CO APCD data

Data Preprocessing

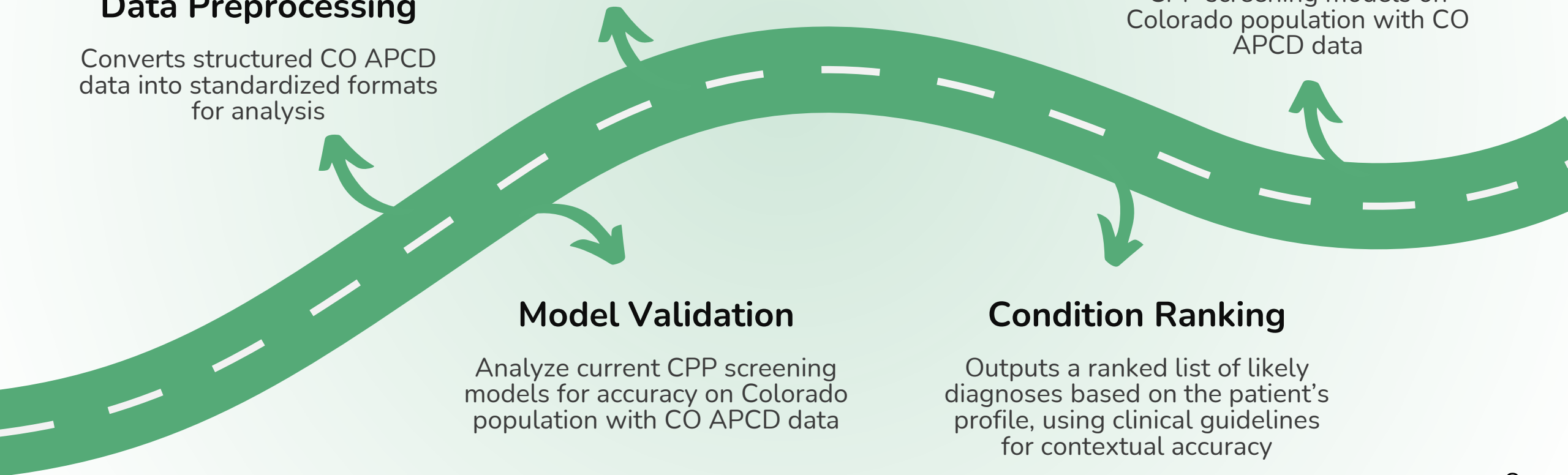
Converts structured CO APCD data into standardized formats for analysis

Model Validation

Analyze current CPP screening models for accuracy on Colorado population with CO APCD data

Condition Ranking

Outputs a ranked list of likely diagnoses based on the patient's profile, using clinical guidelines for contextual accuracy



EXPLORATORY

CO APCD Chronic Pelvic Pain Representation

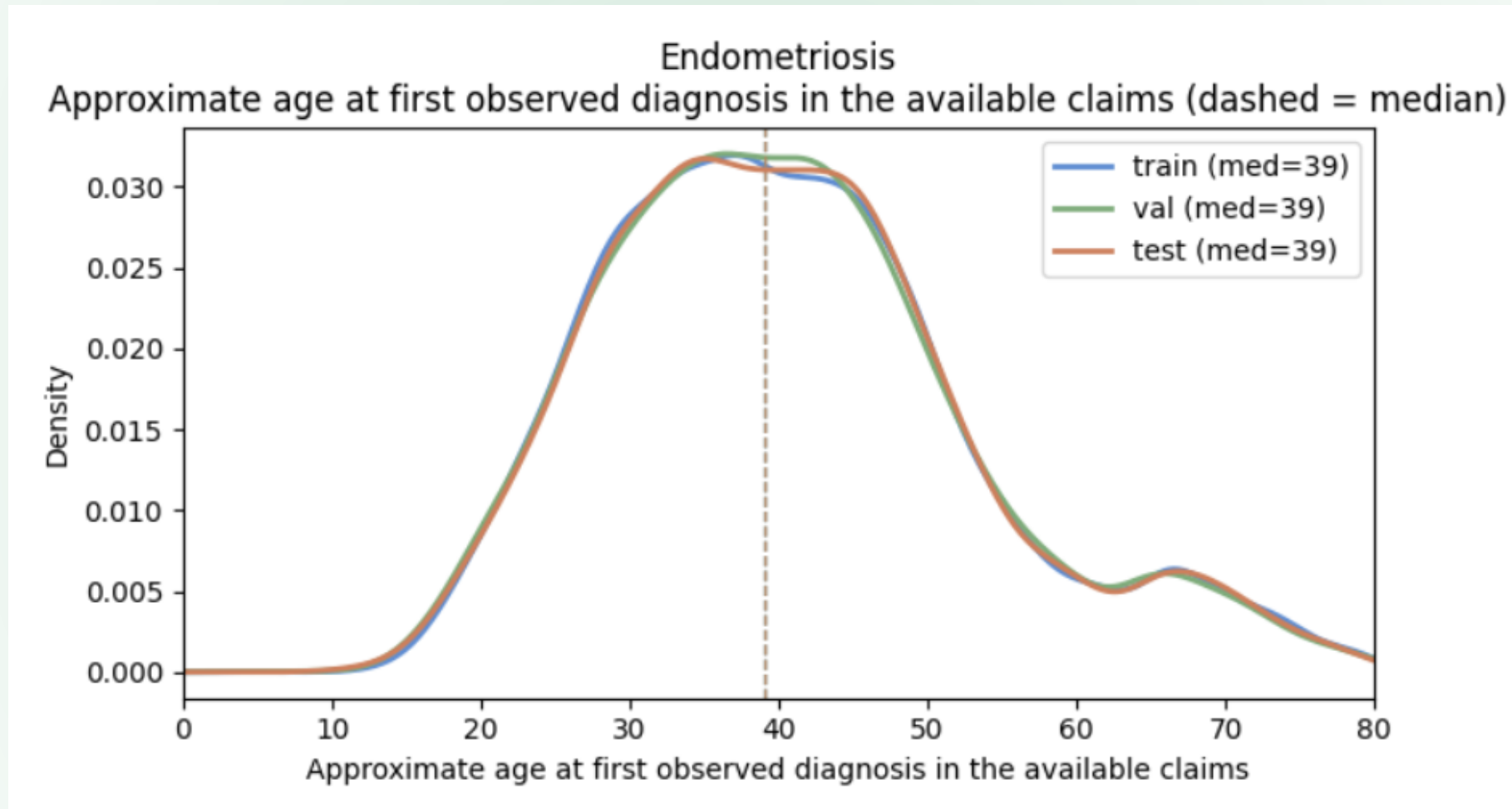
CPP	Patient Count
Endometriosis	60k
Polycystic Ovary Syndrome	70k
Interstitial Cystitis	20k
Adenomyosis	30k

Endometriosis Representation

Race (collapsed)	Percent	Ethnicity (collapsed)	Percent
Asian	1.7%	Hispanic	0.4%
Black	2%	Non-Hispanic	99.6%
Native	0.7%		
Other Race	17.8%		
White	29.6%		
Unknown / Not Specified	48.2%		

EXPLORATORY

CO APCD Chronic Pelvic Pain Representation



Other Conditions recorded among members with endometriosis

Among 60620 endometriosis cohort-

Fibroids were recorded before endometriosis in 1 in 5 members.

Condition	% Before	% Any time	N_before
Uterine Fibroids	20.37%	36.51%	12346
Myofascial Pain Syndrome	8.4%	15.60%	5095
Irritable Bowel Syndrome	5.89%	12.78%	3572
Infertility	3.39%	6.21%	2053
Interstitial Cystitis	1.37%	3.48%	829
Adenomyosis	0.30%	51.09%	181

CO APCD study data, 2012–2024. Before = earlier than first observed endometriosis date; any time includes before, same day, and later records. Groups overlap. Observation length varies.

DISCUSSION

Model performance across evaluation settings

CPP	Mayo Model Mayo Dataset	Mayo Model CO APCD Dataset	CO APCD Model CO APCD Dataset
Adenomyosis	0.96	0.73	0.96

- Mayo Model performed at **0.96** AUROC on the Mayo Dataset, but when testing on the CO APCD Dataset, accuracy dropped to **0.73**.
- This drop is expected because of the data differences between an EHR and a claims dataset.
- Using the CO APCD dataset, we were able to develop similarly performing models.

DISCUSSION

CO APCD Adapted Modeling Results

CPP	AUROC	Sensitivity	Specificity
Adenomyosis	0.96	0.84	0.93

- Catches **84%** of true cases while correctly ruling out **93%** of patients who don't have Adenomyosis.
- Trained and validated on Colorado's own data, not borrowed from another state's population
- High accuracies for an effective differential diagnosis for Colorado's patients

Steps toward generalizable clinical decision support

Completed	Next steps
Evaluated Mayo-trained models on CO APCD	Examine ICD/CPT mapping and feature availability
Trained separate models using CIVHC data	Revisit feature selection and engineer features from condition combinations and timing
Evaluated CIVHC validation performance	Test performance in independent populations

Project Impact: Earlier detection of chronic pelvic pain

1

What CIVHC enabled

- Evaluation of our models in a different data setting
- Adenomyosis fell from 0.96 on Mayo data to 0.73 on CO APCD
- Models must be tested outside the data they were built on

2

What we built

- New models trained directly on CO APCD
- Adenomyosis recovered to 0.96 AUROC in CIVHC validation
- Sensitivity 0.84, specificity 0.93
- The signal can be found in claims or EHR data

3

Where this leads

- Coding and feature differences, calibration, new populations
- Clinical evaluation to assess impact on diagnostic delay
- Position LasaClinical to serve Colorado providers

The future of pelvic pain care



margaret@lasahealth.com



www.lasahealth.com



LasaHealth



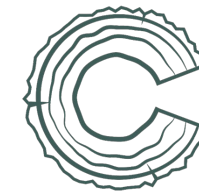


Welcome

Erica Felder, PhD

Colorado's Multi-Sector Plan on Aging (MPA) Dashboard

CO APCD Research Showcase
September 17, 2026
Erica Felder, PhD



Multi-Sector
Plan on Aging



COLORADO
Department of Human Services



MPA Dashboard Goals

The Colorado Multi-Sector Plan on Aging Dashboard has several goals:

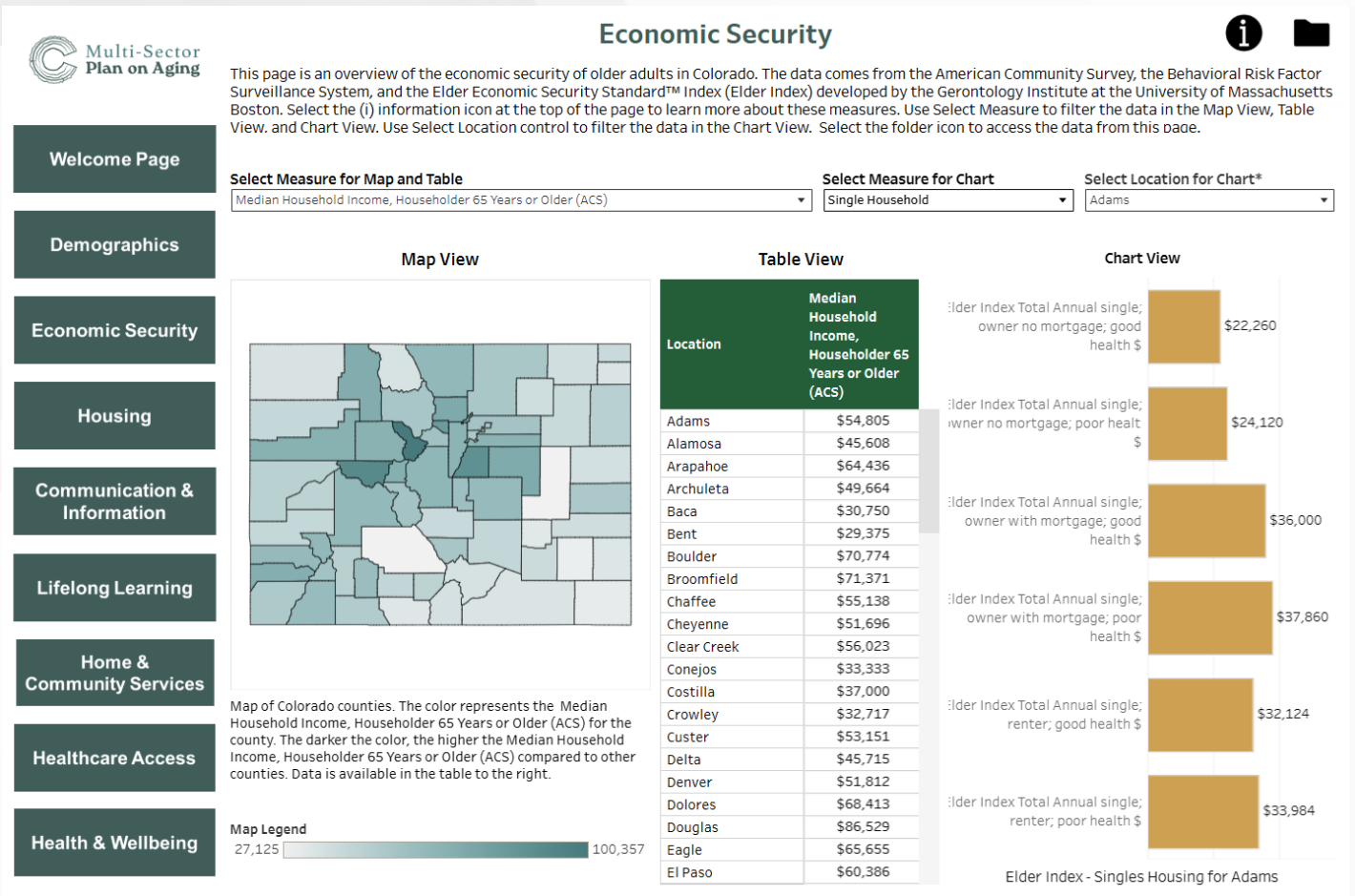
1. To serve as a central place to find data about aging in Colorado
2. To provide data for aging stakeholders and the public
3. To accompany the first-ever [Colorado Multi-Sector Plan on Aging](#), launched in 2025
4. To meet the requirements set out in House Bill 22-1035, The Modernization of the Older Coloradans Act, to “develop, maintain, and make publicly available on the state department’s website a collection of available data sets” [House Bill 22-1035](#)

MPA Dashboard Background

- Work began in 2020 as collaboration between CDHS & Governor's Office
 - Inspired by New England states' [Healthy Aging Data Reports](#)
- States start launching Multi-Sector Plans on Aging and dashboards
 - Inspired by [California's Master Plan on Aging Dashboard](#)
- Gathered feedback from Area Agencies on Aging, State Action Planning Group on Aging, and Colorado Commission on Aging
- Looked for aggregate, longitudinal data available at the county level - over 300 data measures originally identified
- Initial set of [147 measures from 9 data sources](#) for version 1 of the dashboard, launched in January 2026

Multi-Sector Plan on Aging Data Dashboard

Colorado MPA Dashboard



Colorado All Payers Claims Database

- CIVHC developed 15 measures as a custom report for inclusion in the MPA Dashboard using 2021 CO APCD data
- Measures were based on Medicare data measures used in other states
- Benefits of CO APCD data for the MPA Dashboard → more coverage of the older adult population: Medicare Fee for Service, Medicare Advantage, Medicaid, Commercial Payers
- CO APCD Data included in Healthcare Access, Home and Community Services, and Health and Wellbeing topic areas of the Colorado MPA Dashboard

CO APCD Measures in the MPA Dashboard

% Diagnosis of Alzheimer's Disease or related dementias

% of Coloradans with traumatic brain injury

% dually eligible for Medicaid and Medicare

% of each insurance type (Medicare, Medicaid, Commercial)

of physician visits within year

of ER visits/1000 persons annually

Medicare Part D monthly prescription fills/person/year

of home health visits/year

of inpatient hospital stays/1,000 persons

% of inpatient hospital discharges with 30 days readmission

% receiving Medicaid LTSS

of those receiving hospice services

of dialysis treatments

% with an average of 3+ medications

% of population with 4+ (out of top 15) chronic conditions

Example Use Cases for APCD Dashboard Measures

01

Measure: The percent of covered Coloradans 60+ that were diagnosed with or treated for Alzheimer's or dementia

Use Case: Planning for services and care needed to support those with ADRD.

02

Measure: The percent of covered Coloradans 60+ that were discharged from a hospital and readmitted within 30 days post-discharge

Use Case: Planning for services that may prevent avoidable hospital readmissions.

MPA Dashboard Acknowledgments

Thank you to Trust for America's Health and the Center for Health Care Strategies for their generous financial support for the dashboard and the Colorado Department of Health Care Policy & Financing (HCPF) for the scholarship for the Colorado All Payer Claims Database, administered by the Center for Improving Value in Health Care (CIVHC). Thank you to the multiple individuals who have provided feedback and support for the creation of the Colorado Multi-Sector Plan on Aging Dashboard.

We'd like to hear from you!

Suggest data to include in future versions of the Colorado MPA Dashboard: [Colorado MPA Dashboard Suggestions Google Form](#)



Thank you!

For more info, contact:

Erica Felder, PhD

Program Evaluator,

Division of Aging & Adult Protective Services



720.450.5008



erica.felder@state.co.us



COLORADO

Department of Human Services



Welcome

Amanda Kim

Hospital Price Transparency Database

New Product Offering



What is Hospital Price Transparency?

- Centers for Medicare & Medicaid Services (CMS) Hospital Price Transparency Rule
- Starting January 1, 2021, each hospital operating in the United States will be required to provide clear, accessible pricing information online about the items and services they provide.
- Goal is to help Americans know the cost of a hospital item or service before receiving it.

Hospitals publish pricing information in two ways:

A machine-readable file covering items and services.

A consumer-friendly display of shoppable services.

Utility Beyond Consumers

This database can be used to:

- Evaluate cost drivers
- Identify price disparities
- Assess the impact of price transparency regulations
- Other research, modeling, analysis, and evaluations



Accessing the Machine-Readable Files

The challenge:

- Finding each hospital file takes time.
- Downloading and converting all files is cumbersome.
- Standardizing the files into a useable dataset takes substantial coding.

The Solution:

Hospital Price Transparency Database

- 80+ Acute Care and Critical Access Hospitals
- Centralized
- Standardized
- Validated
- Delivered into your environment



Our collection workflow

Collect

1

Hospital
Websites

Parse

2

Machine-
readable files

Standardize

3

Common
schema

Validate

4

Hospital-level
review

Combine

5

Central
repository



Our collection workflow

STEP 1

DOWNLOAD

Locate the machine-readable file on each hospital's public website.

Download the source file and identify the hospital or facilities it covers.

Inspect the format, update information, and file structure.

Keep the source context available for parsing and review.





Our collection workflow

STEP 2 **PARSE**

Read the file's rows, columns, or nested JSON sections.

Extract hospital, service, setting, payer, and price fields.

Keep each price attached to its service and payer context.

Check that flattening preserves the source relationships.

Our collection workflow

STEP 3

STANDARDIZE

Keep identifiers and code systems distinct.

Align setting and payer labels only when meaning is clear.

Separate gross charges from payer-specific price fields.

Preserve missing or ambiguous values for review.





Our collection workflow

STEPS 4-5

VALIDATE & COMBINE

Check completeness and consistency within each hospital file.

Review transformed records against the source.

Combine standardized hospital files; retain row identifiers.

Split large exports into manageable files when needed.

The common data fields

Identity

Hospital

NPI /
Identifiers

Service

Procedure /
MS-DRG code

Description

Modifier

Context

Inpatient /
Outpatient

Billing class

Payer
classification

Price

Gross charge

Payer-specific
charge



Requesting the HPT Database

- Complete the streamlined application
- Data delivered to your environment
- Can be a companion to a CO APCD claims data set
- Accessible cost: Starting at \$10,000, with discounts for researchers and non-profits.
- Contact your Strategic Partnership Manager or coloradoapcd@civhc.org to start the process!



Questions and Feedback



Reach out to our presenters:

- margaret@lasahealth.com
- erica.felder@state.co.us
- info@civhc.org

Connect with CIVHC on LinkedIn and Instagram



Join CIVHC's email list at www.civhc.org

