Best Practices in Health Care Claims Data Analysis to Inform State Action and Control Costs

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bailit health

Peterson-Milbank Program for Sustainable Health Care Costs

Introducing ourselves

bailit health

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New publication: *Best Practices in Health Care Claims Data Analysis to Inform State Action and Control Costs*

Available here:

https://www.milbank.org/

States are performing insightful APCD analyses – we'll share them with you!

Webinar objectives:

- Explore how states can harvest compelling data insights from their All-Payer Claims Database (APCD)
- Spotlight examples from Rhode Island, Maine, and other states on topics such as:
  - Hospital price variation
  - Pharmaceuticals
  - Primary care
  - And more!

Agenda

1. Introduction: Tips to set your APCD analysis up for success
2. Example APCD analyses
    a. Starting with the basics
    b. Deeper dives

Introduction: Tips to set your APCD analysis up for success

States have made great strides in harvesting insights from APCDs

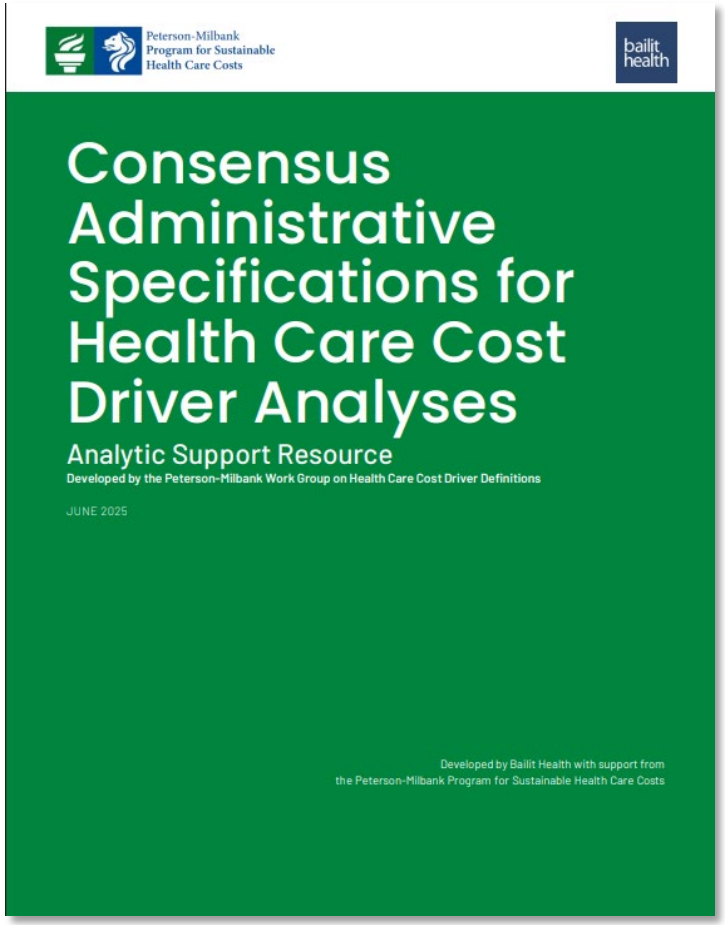
- As health care spending continues to grow at alarming rates, states have looked to APCDs to:
  - ✓ Paint a comprehensive picture of statewide health care spending
  - ✓ Understand longitudinal trends
  - ✓ Point to specific cost drivers
  - ✓ Support regulatory oversight

Enhancing the value of ACPDs: Standardized definitions

- Apples-to-apples definitions enable **cross-state insights into health care spending – *as a result, multiplying the value of those ACPD insights***

Peterson-Milbank Standardized Definitions

- ✓ Standardized definitions for health care service categories
- ✓ Supporting code lists and step-by-step instructions for calculating spending on each category



Find the document here: https://www.milbank.org/wp-content/uploads/2025/06/Compiled-Cost-Driver-Specs-2025-06-17.pdf

What's the best way to format your APCD data to support your objectives?

1. **Data extract** for ad-hoc analysis
2. **Static report** to summarize trends
3. **Interactive dashboard** to enable data exploration

Questions to ask:

→ *What are my analytic goals?*

→ *What is my time capacity and what resources do I have available?*

→ *What are my goals for sharing information externally?*

1. Data extract *for ad-hoc analysis*

Claim ID	Enrollee ID	Payer ID	Plan Type	NPI	Service Date	Claim Paid Date	CPT Code
1	ENR01234	PYR2	HMO	1476926004	3/1/2025	5/6/2025	E11.9
2	ENR6631	PYR4	PPO	1519461081	3/2/2025	5/6/2025	J18.9
3	ENR6154	PYR4	EPO	1320661846	3/3/2025	5/6/2025	I10
4	ENR4874	PYR1	POS	1623963102	3/4/2025	5/6/2025	I10
5	ENR1283	PYR4	HMO	1402209309	3/5/2025	5/6/2025	I10
6	ENR4174	PYR1	PPO	1150868625	3/6/2025	5/6/2025	F32.9
7	ENR7019	PYR4	EPO	1361020890	3/7/2025	5/6/2025	M17.11
8	ENR6883	PYR1	POS	1826004640	3/8/2025	5/6/2025	M17.11
9	ENR1404	PYR1	HMO	1202637999	3/9/2025	5/6/2025	M17.11
10	ENR3976	PYR4	PPO	1419498058	3/10/2025	5/6/2025	M17.11
11	ENR4764	PYR1	EPO	1943306085	3/11/2025	5/6/2025	F32.9
12	ENR6438	PYR2	PPO	1590277659	3/13/2025	5/6/2025	I10
13	ENR3338	PYR1	EPO	1918029721	3/14/2025	5/6/2025	Z00.00
14	ENR7017	PYR4	POS	1374414824	3/15/2025	5/6/2025	Z00.00
15	ENR7370	PYR4	HMO	1943072431	3/16/2025	5/6/2025	F32.9
16	ENR2864	PYR2	PPO	1133555843	3/17/2025	5/6/2025	Z00.00
17	ENR3467	PYR1	EPO	1614860985	3/18/2025	5/6/2025	Z00.00
18	ENR4423	PYR3	HMO	1232091565	3/19/2025	5/6/2025	I10
19	ENR7666	PYR4	HMO	1929398453	3/20/2025	5/6/2025	Z00.00
20	ENR5947	PYR1	PPO	1825922880	3/21/2025	5/6/2025	Z00.00
21	ENR5782	PYR4	EPO	1699945654	3/22/2025	5/6/2025	Z00.00
22	ENR4855	PYR4	POS	1986627471	3/23/2025	5/6/2025	I10
23	ENR5378	PYR2	POS	1576286730	3/24/2025	5/6/2025	R07.9
24	ENR7645	PYR2	HMO	1572633739	3/25/2025	5/6/2025	R07.9
25	ENR3432	PYR3	PPO	1838897812	3/26/2025	5/6/2025	F32.9
26	ENR5935	PYR1	HMO	1179488989	3/27/2025	5/6/2025	I10
27	ENR2477	PYR4	HMO	1585274949	3/28/2025	5/6/2025	R07.9
28	ENR5012	PYR1	POS	1985935472	3/29/2025	5/6/2025	F32.9
29	ENR2028	PYR3	PPO	1711398048	3/30/2025	5/6/2025	R07.9
30	ENR5797	PYR3	HMO	1942030059	3/31/2025	5/6/2025	R07.9
31	ENR1978	PYR4	PPO	1687294953	4/1/2025	5/6/2025	R07.9
32	ENR4328	PYR3	POS	1579189206	4/2/2025	5/6/2025	R07.9
33	ENR6102	PYR2	PPO	1701921953	4/3/2025	5/6/2025	F32.9

Example created for the purposes of the report/webinar – not based on real state data.

2. Static report *to summarize trends*

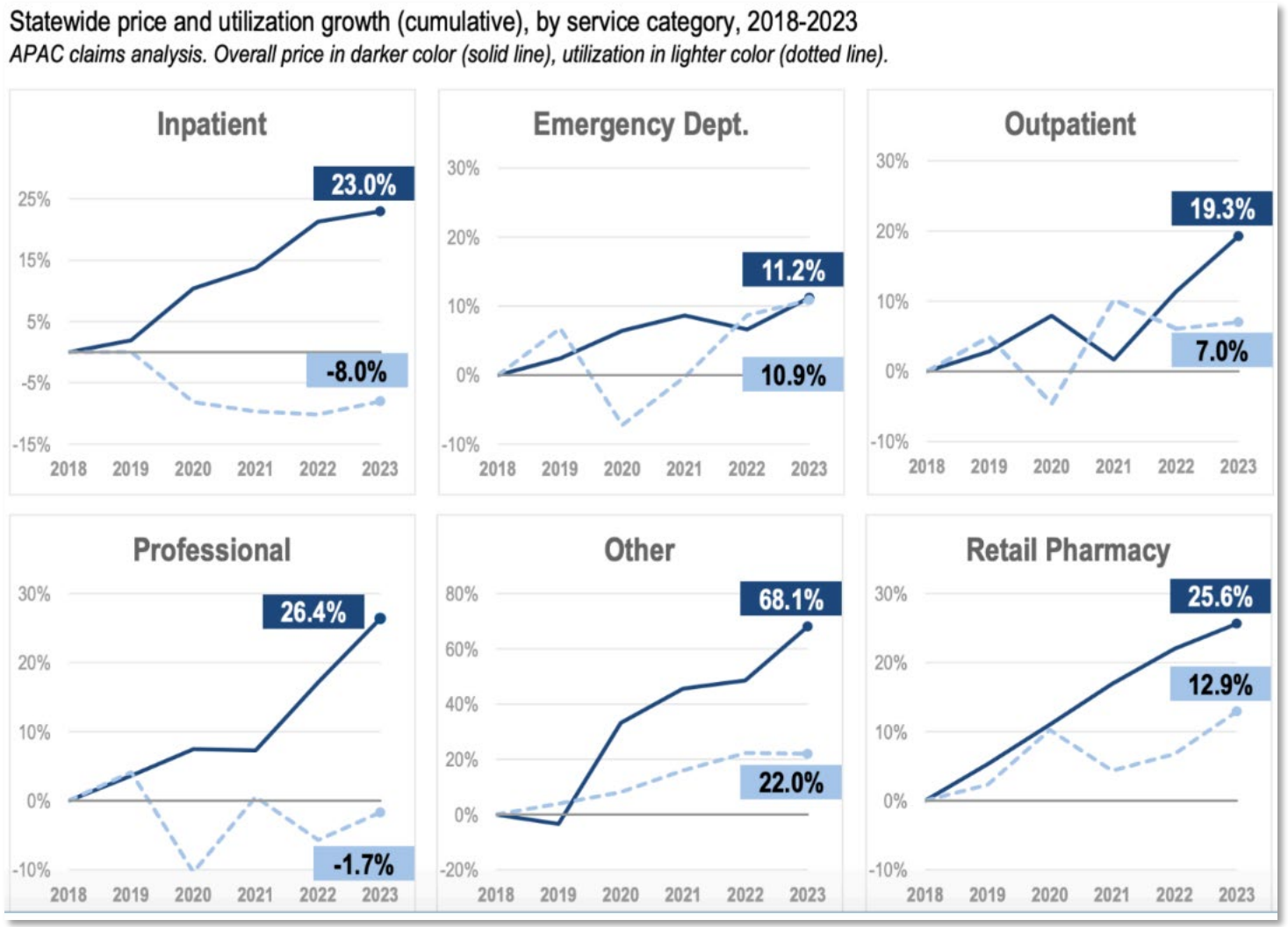


Image source: https://www.oregon.gov/oha/HPA/HP/Cost%20Growth%20Target%20documents/Oregon-Health-Care-Cost-Trends-Report-2022-2023.pdf

3. Interactive dashboard *to enable data exploration*

Glossary & Guide | Cost Drivers Summary | Chart - PMPM | Map - PMPM | Chart - PPU | Map - PPU | Chart - UPK | Map - UPK | Cost Drivers by Service Category

CONNECTICUT Health Strategy

Cost Drivers Summary

By Market, Claim Category, and Year

Age group: All | Gender: All | Planning region: All | Service category: All | Submarket: All

Market	Claim Category	Year	PMPM	PMPM Annual Change	PPU	PPU Annual Change	UPK	UPK Annual Change
Commercial	Medical	2019	$461.32		$181.69		30,468.2	
Commercial	Medical	2020	$423.80	-8.1%	$186.50	2.6%	27,268.9	-10.5%
Commercial	Medical	2021	$511.08	20.6%	$176.34	-5.4%	34,779.2	27.5%
Commercial	Medical	2022	$524.27	2.6%	$189.33	7.4%	33,228.6	-4.5%
Commercial	Medical	2023	$564.74	7.7%	$197.77	4.5%	34,266.7	3.1%
Commercial	Retail Pharmacy	2019	$106.24		$120.31		12,559.6	
Commercial	Retail Pharmacy	2020	$106.84	0.6%	$130.93	8.8%	12,163.3	-3.2%
Commercial	Retail Pharmacy	2021	$116.78	9.3%	$137.65	5.1%	12,587.8	3.5%
Commercial	Retail Pharmacy	2022	$131.81	12.9%	$147.31	7.0%	13,168.3	4.6%
Commercial	Retail Pharmacy	2023	$161.74	22.7%	$163.67	11.1%	14,619.4	11.0%
Medicaid	Medical	2019	$573.46		$105.86		65,007.5	
Medicaid	Medical	2020	$535.99	-6.5%	$111.83	5.6%	57,512.9	-11.5%
Medicaid	Medical	2021	$533.79	-0.4%	$109.88	-1.7%	58,293.8	1.4%
Medicaid	Medical	2022	$522.48	-2.1%	$115.18	4.8%	54,435.8	-6.6%
Medicaid	Medical	2023	$530.43	1.5%	$114.41	-0.7%	55,637.2	2.2%
Medicaid	Retail Pharmacy	2019	$136.93		$114.84		15,538.0	
Medicaid	Retail Pharmacy	2020	$132.64	-3.1%	$119.53	4.1%	14,771.2	-4.9%
Medicaid	Retail Pharmacy	2021	$136.00	2.5%	$123.78	3.6%	14,662.1	-0.7%

Image source: https://app.powerbigov.us/view?r=eyJrIjoiNDhlNzYzMjUtNzE2OS00NGE0LWJhYmYtOTMyZGJkY2ZkMzkxIiwidCI6IjExOGI3Y2ZhLWEzZGQtNDhiOS1iMDI2LTMxZmY2OWJiNzM4YiJ9

Example APCD analyses:

STARTING WITH THE BASICS

Spending by market, service category

STATE SPOTLIGHT:
MAINE

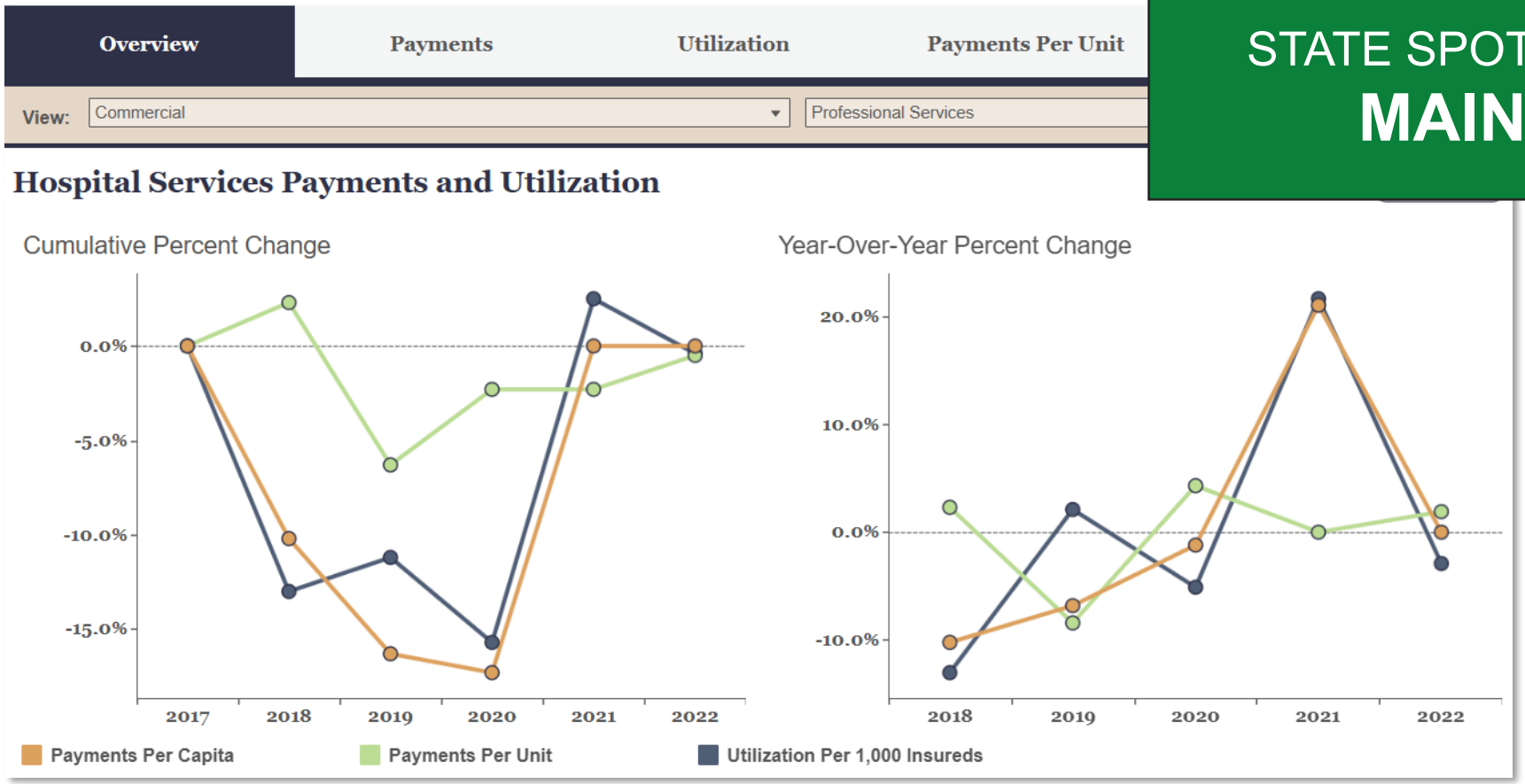


Image source: https://www.maine.gov/oahc/hospital-payments-utilization-dashboards

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Example APCD analyses:

DEEPER DIVES

We'll highlight the following deeper dive analyses:

- **Hospital Price Variation**
  - Price as a percentage of Medicare / RAND data
  - Market basket methodology
  - In- vs. out-of-state care
- **Pharmacy**
  - GLP-1s
- **Primary Care**
  - Percent of primary care of total medical spending
- **Behavioral Health**
  - Spending by age group

Hospital price variation: A hot topic for states!

- Vertical and horizontal provider consolidation enables **dominant hospitals to demand higher prices** or threaten to leave insurer networks
  - High prices often reflect hospital market dominance and negotiating leverage rather than differences in cost or quality of care
- **Examining hospital price variation can reveal crucial opportunities to reduce unnecessary spending**

Hospital price variation: Price as a percentage of Medicare / RAND data

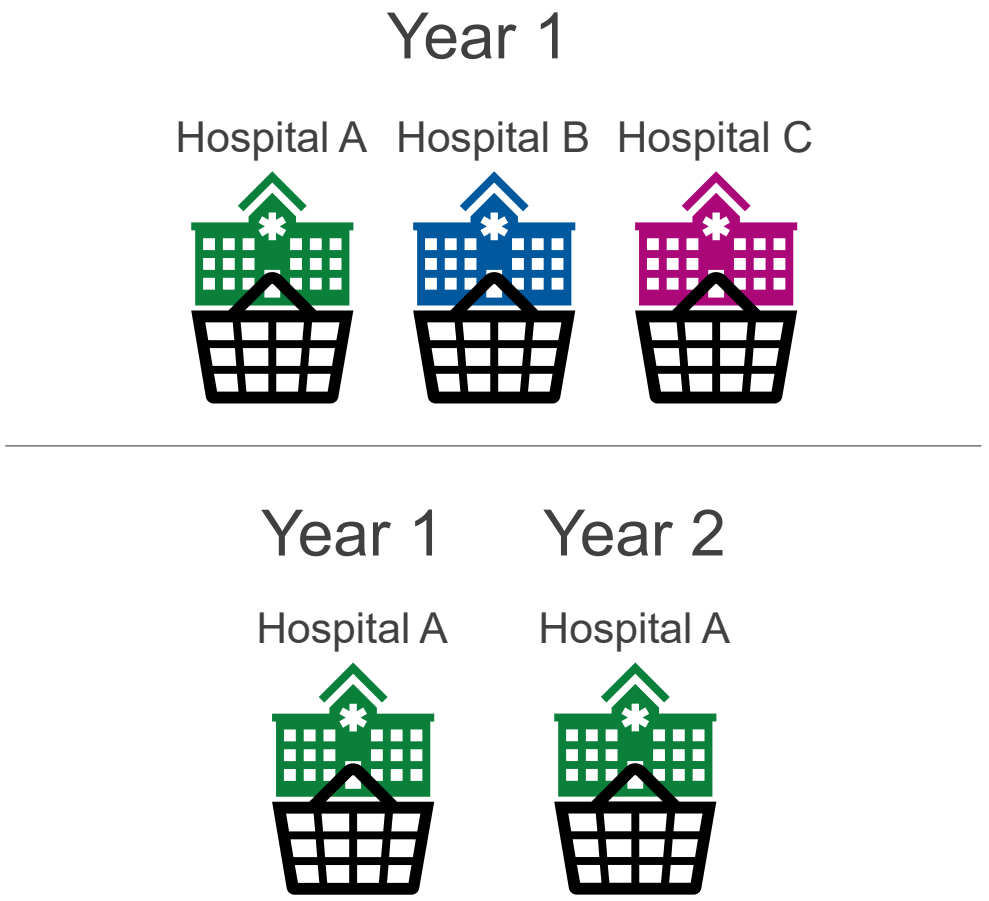
- States can use their APCD data to compare commercial prices across hospitals as a **percentage of Medicare rates**.
- Medicare payment rates offer the opportunity to make **cross-hospital** and **cross-state comparisons**

The **RAND Employer-Led Transparency Initiative, Round 5.1 data**, which uses some states' APCD data among other sources, shows commercial prices paid to hospitals and health systems as a percentage of Medicare rates.

RAND data can be found here: https://www.rand.org/pubs/research_reports/RRA1144-2-v2.html

Hospital price variation: Market basket methodology (1 of 2)

- Market basket methodology is unique in that it can **control for differences and changes in service mix** and isolate changes in price
- Each **market basket represents a high-level category of services**, such as psychiatry or surgery



Hospital price variation: Market basket methodology (2 of 2)

- The Massachusetts Health Policy Commission developed **a fixed-quantity market basket of the 50 highest-cost hospital outpatient services** to allow for comparisons of unit payments across payers and providers
- Enabled Massachusetts policymakers to understand where payments were high, **controlling for service mix variation**

STATE SPOTLIGHT:
MASSACHUSETTS

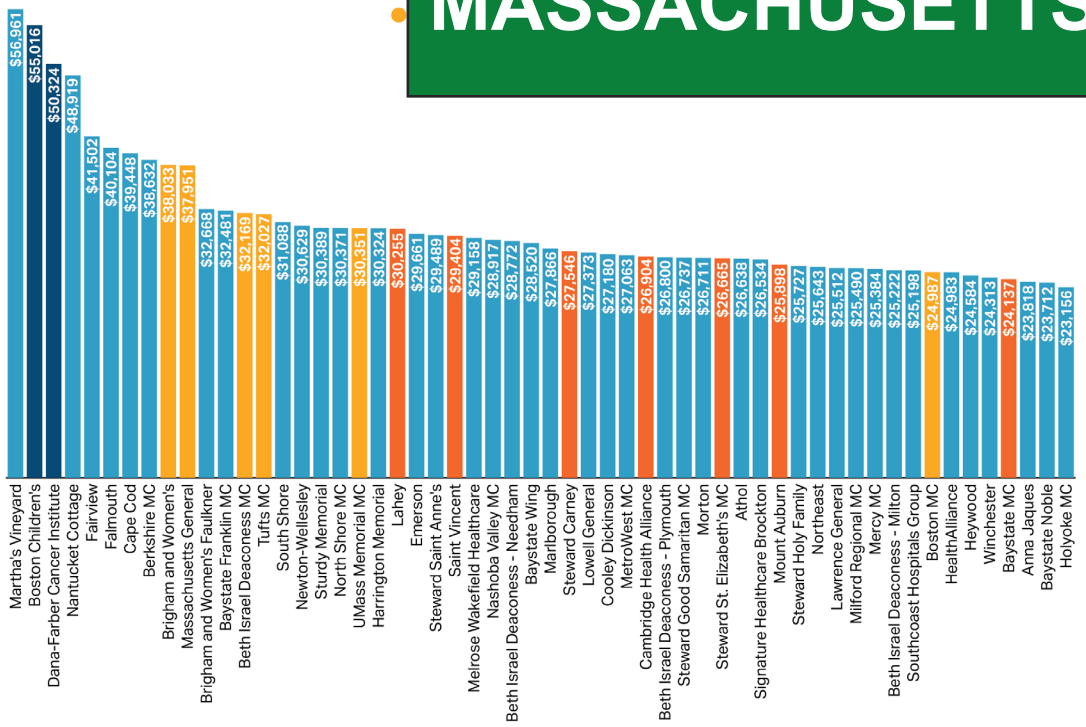
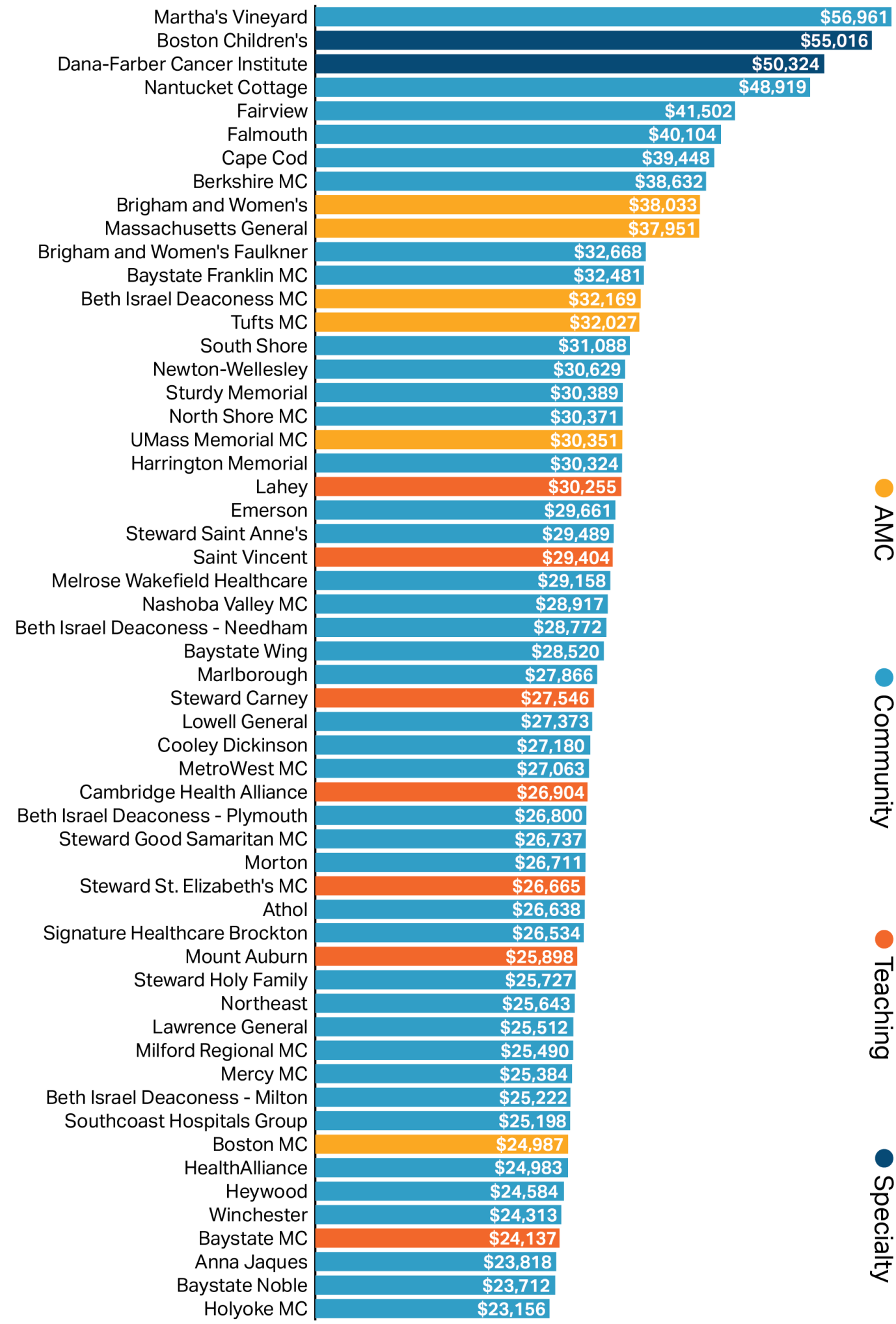


Image source: https://masshpc.gov/sites/default/files/2024%20CTR%20Chartpack.pdf


Martha's Vineyard $56,961
Boston Children's $55,016
Dana-Farber Cancer Institute $50,324
Nantucket Cottage $48,919
Fairview $41,502
Falmouth $40,104
Cape Cod $39,448
Berkshire MC $38,632
Brigham and Women's $38,033
Massachusetts General $37,951
Brigham and Women's Faulkner $32,668
Baystate Franklin MC $32,481
Beth Israel Deaconess MC $32,169
Tufts MC $32,027
South Shore $31,088
Newton-Wellesley $30,629
Sturdy Memorial $30,389
North Shore MC $30,371
UMass Memorial MC $30,351
Harrington Memorial $30,324
Lahey $30,255
Emerson $29,661
Steward Saint Anne's $29,489
Saint Vincent $29,404
Melrose Wakefield Healthcare $29,158
Nashoba Valley MC $28,917
Beth Israel Deaconess - Needham $28,772
Baystate Wing $28,520
Marlborough $27,866
Steward Carney $27,546
Lowell General $27,373
Cooley Dickinson $27,180
MetroWest MC $27,063
Cambridge Health Alliance $26,904
Beth Israel Deaconess - Plymouth $26,800
Steward Good Samaritan MC $26,737
Morton $26,711
Steward St. Elizabeth's MC $26,665
Athol $26,638
Signature Healthcare Brockton $26,534
Mount Auburn $25,898
Steward Holy Family $25,727
Northeast $25,643
Lawrence General $25,512
Milford Regional MC $25,490
Mercy MC $25,384
Beth Israel Deaconess - Milton $25,222
Southcoast Hospitals Group $25,198
Boston MC $24,987
HealthAlliance $24,983
Heywood $24,584
Winchester $24,313
Baystate MC $24,137
Anna Jaques $23,818
Baystate Noble $23,712
Holyoke MC $23,156
AMC
Community
Teaching
Specialty

Hospital price variation: In- vs. out-of-state care (1 of 2)

- Payment variation occurs not just across hospitals, but across facility types and geographical locations
- Geographic price variation might be of interest to states that are small or have large urban centers that lie at the edge of state borders

Hospital price variation: In- vs. out-of-state care (2 of 2)

- The Rhode Island Office of the Health Insurance Commissioner dashboard compares in-state and out-of-state spending for hospital-provided services
- Illuminates an **opportunity to bring some of this care back to Rhode Island** by increasing and enhancing in-state capacity, and **thereby reducing unnecessary health care spending**

STATE SPOTLIGHT:
RHODE ISLAND

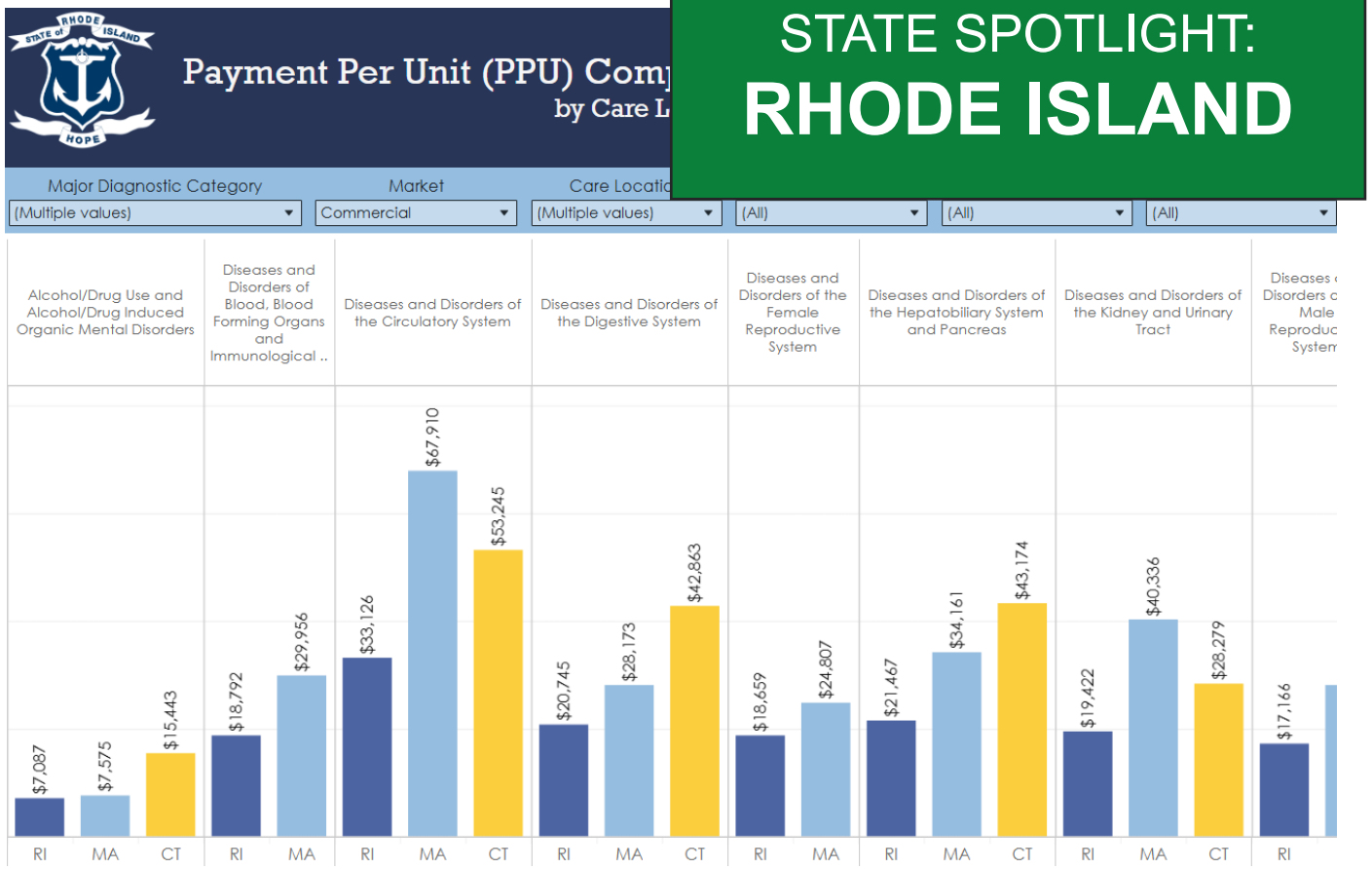


Image source: https://ohic.ri.gov/data-reports/ohic-data-hub

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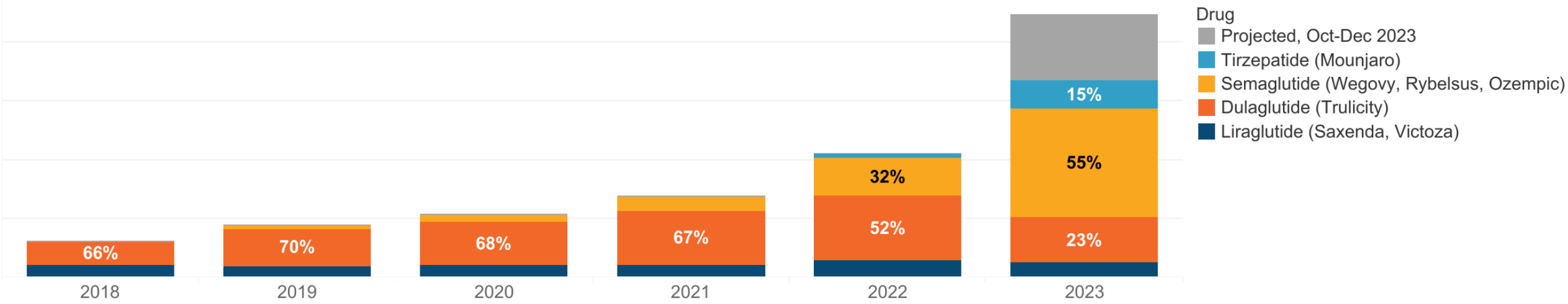
Pharmacy: Another major cost driver of health care spending growth

- **Note: State's APCDs generally do not include information on drug rebates**, which are discounts that drug manufacturers give to third-party entities like health insurance companies on the cost of prescription drugs
  - Therefore, many of these analyses may overstate spending on prescription drugs

Pharmacy: GLP-1s as a cost driver

STATE SPOTLIGHT:
MASSACHUSETTS

Number of prescriptions for selected GLP-1 medications per 100,000 commercial members by therapeutic class and year, 2018 to 2023



- The Massachusetts Health Policy Commission conducted a deep dive into GLP-1 spending in the state from 2018 through 2023

Image source: https://masshpc.gov/publications/datapoints-series/issue-27-blockbuster-glp-1-weight-loss-drugs-massachusetts

Primary care: Opportunity to increase investments

- Primary care is facing daunting workforce and administrative burden challenges across the nation
- A deeper understanding of the primary care spending landscape enables states **to identify opportunities to increase investment**, strengthen primary care, and generate system-wide health care savings.

Primary care: Oregon dashboard

STATE SPOTLIGHT:
OREGON

- **Overview analysis of primary care spending** in Oregon in 2023
- Highlights most essential takeaways – percentage of total spending on primary care, etc.

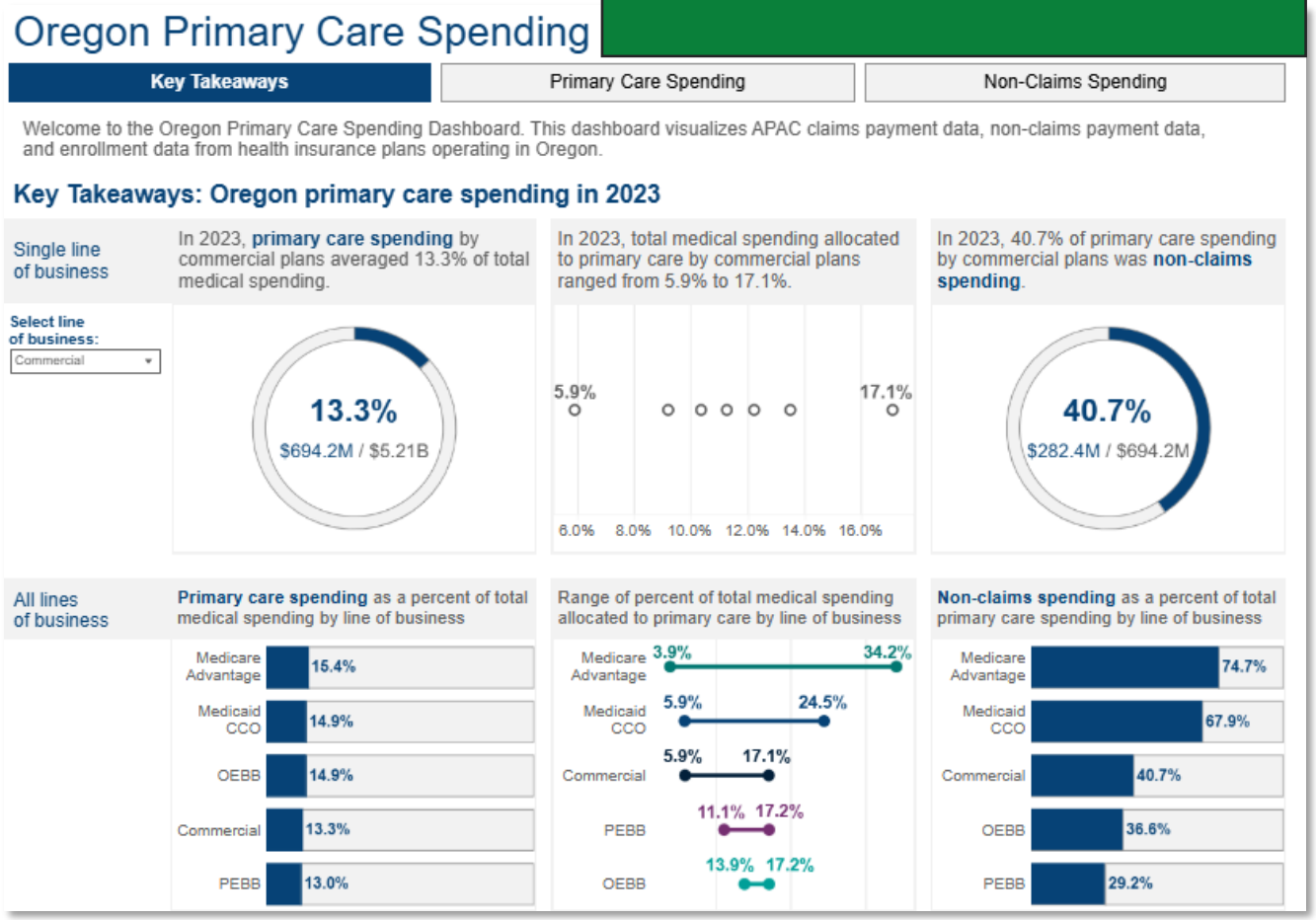


Image source: https://www.oregon.gov/oha/hpa/analytics/pages/primary-care-spending-dashboard.aspx

Oregon Primary Care Spending Dashboard

Key Takeaways | Primary Care Spending | Non-Claims Spending

Welcome to the Oregon Primary Care Spending Dashboard. This dashboard visualizes APAC claims payment data, non-claims payment data, and enrollment data from health insurance plans operating in Oregon.

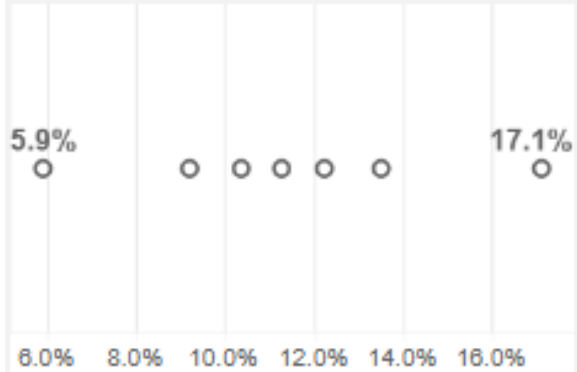
Key Takeaways: Oregon primary care spending in 2023

Single line of business

In 2023, **primary care spending** by commercial plans averaged 13.3% of total medical spending.

Select line of business: Commercial

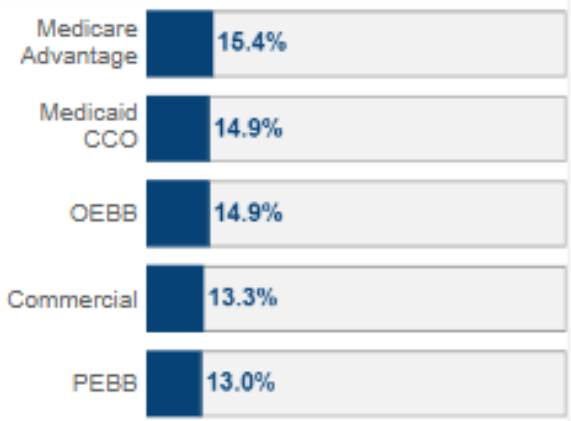
In 2023, total medical spending allocated to primary care by commercial plans ranged from 5.9% to 17.1%.



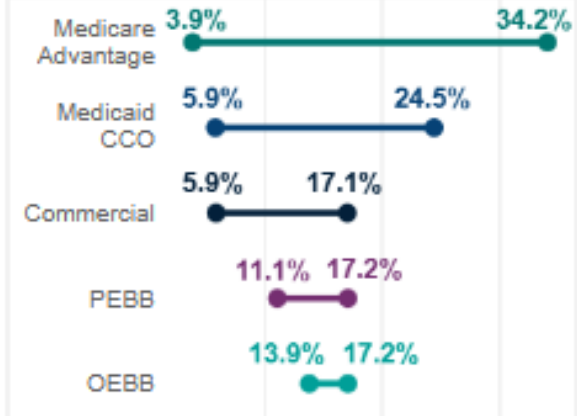
In 2023, 40.7% of primary care spending by commercial plans was **non-claims spending**.

All lines of business

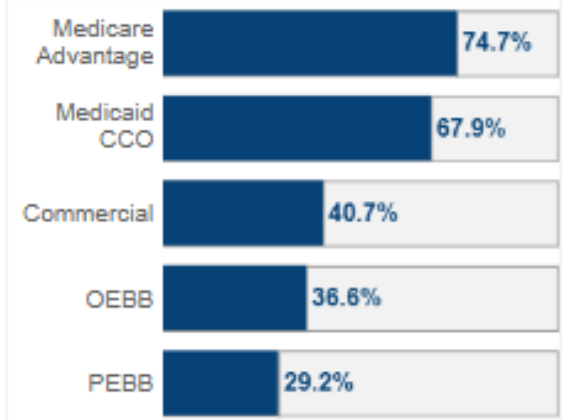
Primary care spending as a percent of total medical spending by line of business



Range of percent of total medical spending allocated to primary care by line of business



Non-claims spending as a percent of total primary care spending by line of business



Behavioral health: Assess spending to understand access and infrastructure gaps

- As with primary care, spending on behavioral health care is important to monitor because it can indicate access barriers to behavioral health care or infrastructure gaps
- States could look at:
  - Per person spending, unit payment, and utilization for all mental health services and stratified by demographic variables,
  - Spending by mental health conditions by market,
  - ED visit rate by condition, etc.

Behavioral health: Spending by age group

STATE SPOTLIGHT:
RHODE ISLAND

- RI OHIC analyzed spending on mental health services for its commercially insured population from 2018 to 2022
- Found **spending more than doubled for children and young adults in this five-year period**
- This increase in spending was driven mostly by **growth in utilization**

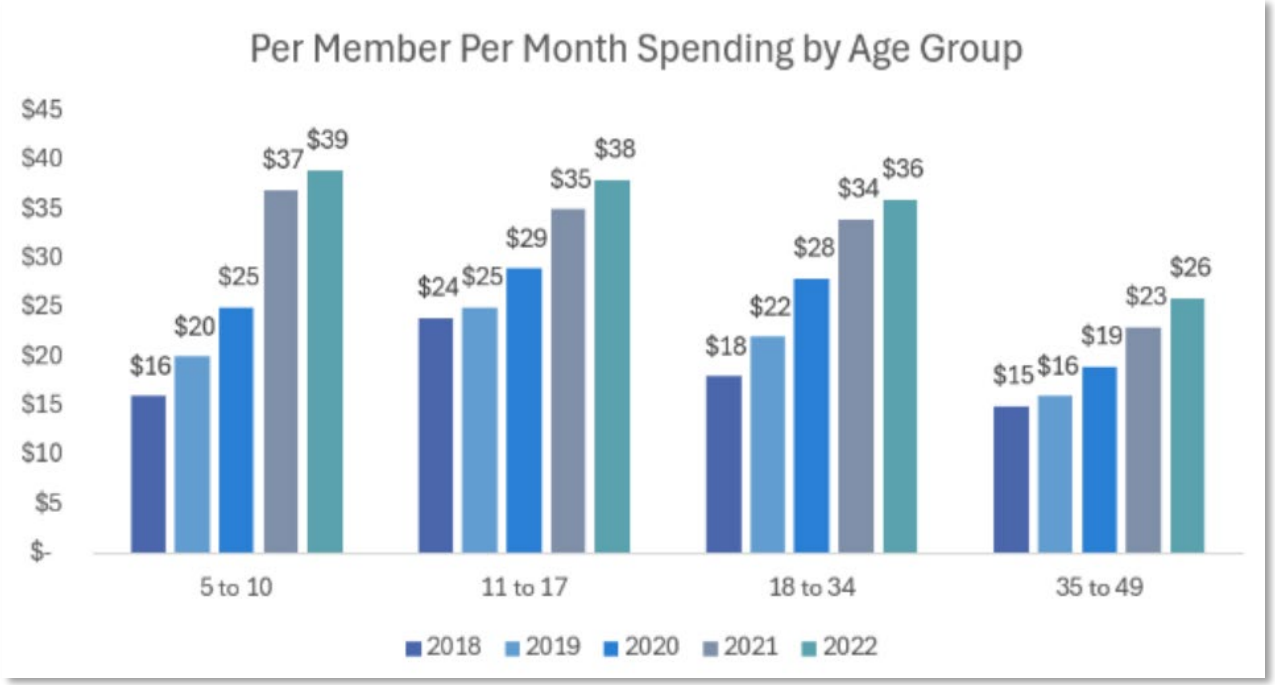
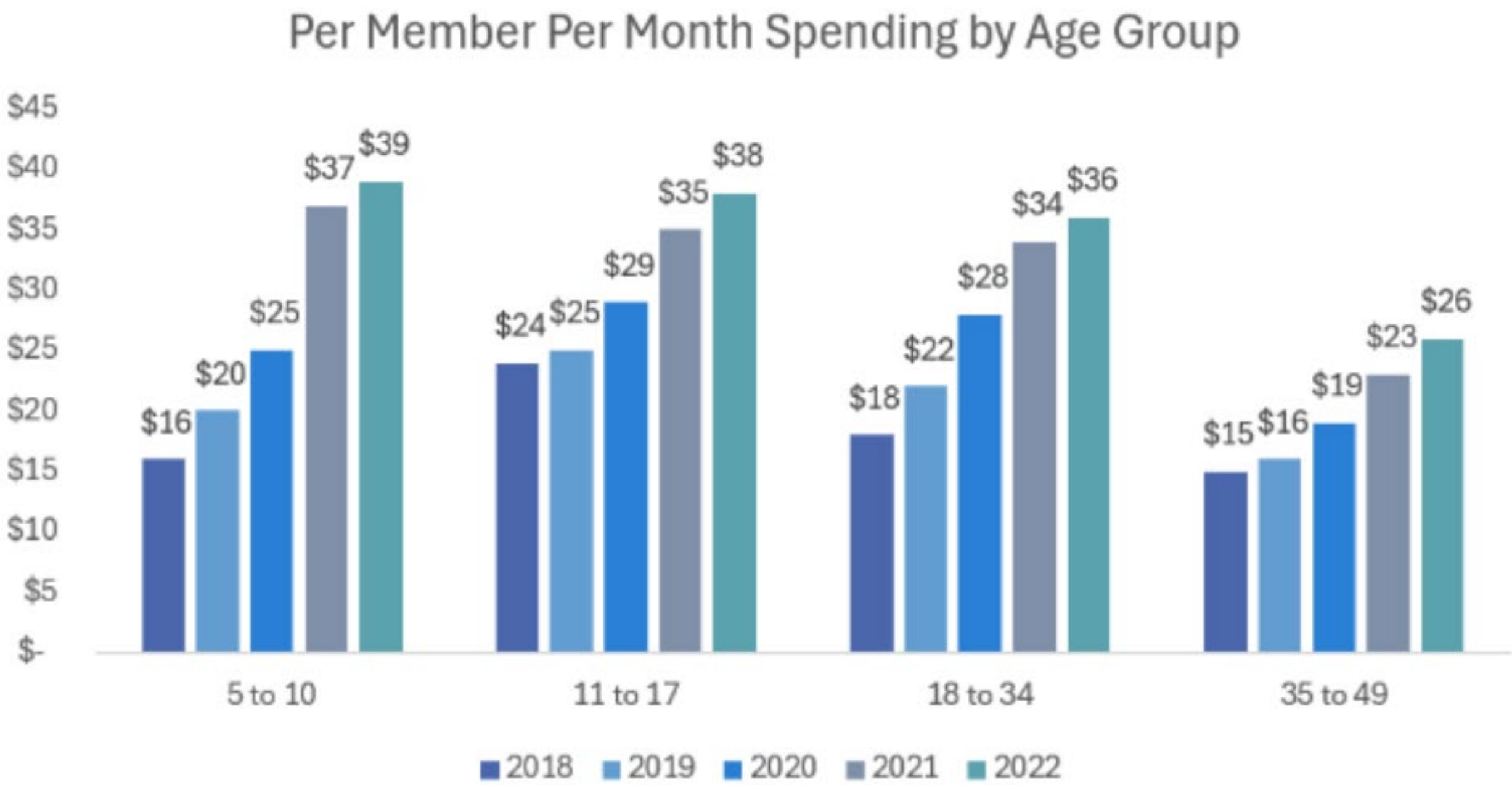
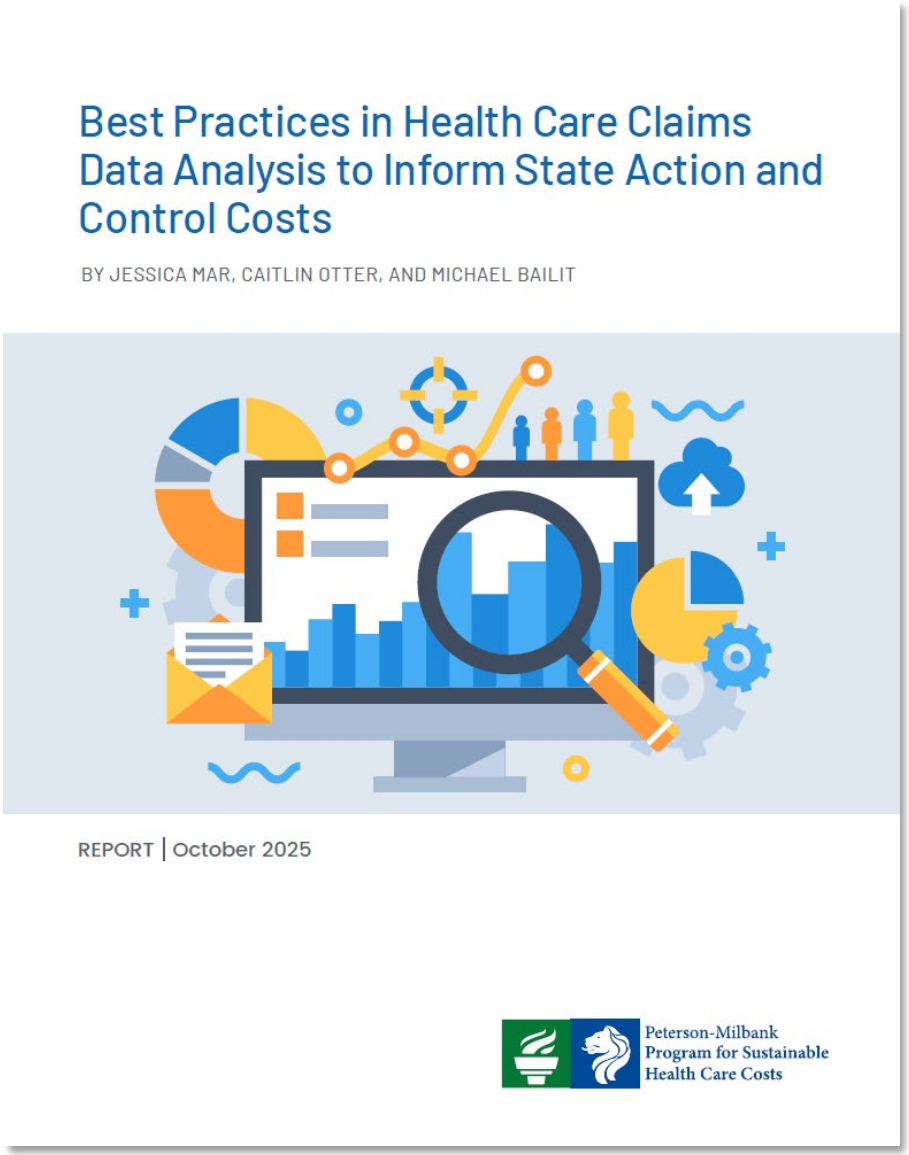


Image source: https://ohic.ri.gov/sites/g/files/xkgbur736/files/2024-03/RI%20OHIC%20March%20Data%20Story%20Mental%20Health.pdf


Per Member Per Month Spending by Age Group
$45
$40
$35
$30
$25
$20
$15
$10
$5
$-
$16
$20
$25
$37
$39
$24
$25
$29
$35
$38
$18
$22
$28
$34
$36
$15
$16
$19
$23
$26
5 to 10
11 to 17
18 to 34
35 to 49
2018
2019
2020
2021
2022

Our publication highlights many more analyses!

- Check out at www.milbank.org to draw inspiration from your peers
- Examples of how your ACPD analyses can inform policy



Questions?

Thank you!