



# Spending Estimates for Health Care Episodes

## Minnesota All Payer Claims Database

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- How Minnesota Uses the MN APCD
- Episodes of Care
- Progress to Date
- Preliminary Results
  - Chronic Episodes
  - Procedural Episodes
- Next Steps

# Analytic & Data Team

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## Project Overview

# Goals and Priorities in the Use of the MN APCD

## Engage

providers in a conversation about system efficiency

## Support

community with statewide benchmarks

## Inform

policy-makers about opportunities for delivery system reform

## Demonstrate

the applied research and policy value of the MN APCD

# Work to Date on Health Care Spending

- Estimating cost drivers
- Identifying cost of:
  - Patients with chronic diseases
  - Disease attributable spending
- Reporting on spending on low-value care
- Analyzing prescription drug spending & trends
- Documenting concentration of spending
- Highlighting the failure of hospital markets to discipline prices

# Episodes of Care Overview

- Episode-based analyses:
  - Group together procedures, services, and medications
  - Outline the entire range of treatment for a single condition
- By grouping together clinically associated services across disparate settings, episodes of care better reflect:
  - The total cost of care for a specific condition
  - The continuum of providers and services navigated in seeking treatment for a condition
  - Impact of different treatment choices on spending

- Apply Altarum's PROMETHEUS Analytics Episode of Care definitions to MN APCD data
  - Issue brief with key findings
  - Public Use File (PUF) designed based on stakeholder feedback
  - Engagement with employers and other stakeholders on the value of the analysis



## PROMETHEUS episodes are...

- Patient-centered
- Time-delimited (including pre-op and post-acute phases)

## PROMETHEUS episodes have been built for...

- Acute conditions
- Chronic conditions
- Inpatient/outpatient procedures

## PROMETHEUS episodes...

- Include all covered services related to the care of the condition
- Differentiate “typical” services from services associated with Potentially Avoidable Complications (PACs)

Episode definitions can be made fully transparent to stakeholders



## Progress to Date

# Project Steps & Considerations

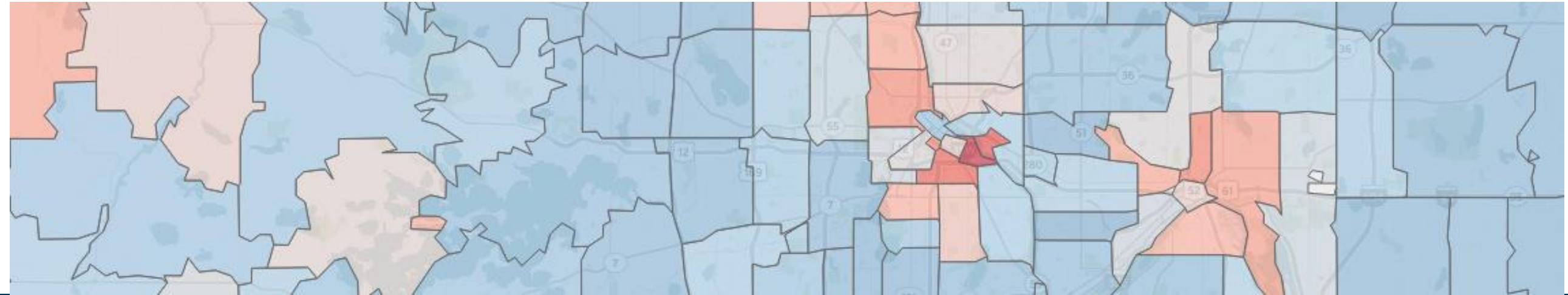
- Performed stakeholder engagement on the front end ... and later on
- Build cloud-based IT solutions while maintaining data privacy
- Mapped MN APCD data for PROMETHEUS input
  - Validated PROMETHEUS output
  - Tested the interaction of various elements of pre/post grouping
- Underway:
  - Finalize data runs across all payers
  - Select episodes to publically report

# Key Takeaways from Stakeholder Meeting

- Stakeholders from hospital and provider association, local measurement groups, employer coalition, and academia who recommended ...
  - Include all lines of business
  - Report temporal trends
  - Identify the cost attributable to specific complications (or the inverse)
  - Choose episodes for PUF empirically

# DRAFT PUF Stratifications

Unique Row ID Number	Episode ID	Episode Name	Episode Type	ZCTA Zip 3	Year	Payer				
12	EP0813	Knee Replacement	Procedure	551	2015/2016	Commercial				
13	EP0813	Knee Replacement	Procedure	551	2015/2016	Medicaid				
14	Episode Count	Average Cost	50th percentile cost	Inpatient cost proportion	Outpatient cost proportion	Professional cost proportion	RX cost proportion	PAC Percent	50th percentile PAC Percent	
15										
220	12,062	\$21,010	\$18,908	0.69	0.09	0.19	0.03	10.0%	8.0%	
221	6,010	\$14,500	\$12,220	0.57	0.14	0.24	0.05	11.0%	6.5%	
222	12,987	\$21,959	\$20,010	0.69	0.09	0.19	0.03	10.0%	8.0%	
223	6,109	\$14,987	\$13,987	0.69	0.09	0.19	0.03	11.0%	6.5%	
Etc...	9,003	\$22,898	\$20,387	0.69	0.09	0.19	0.03	10.0%	8.0%	
	8,109	\$15,118	\$14,980	0.69	0.09	0.19	0.03	11.0%	6.5%	
	Etc...									

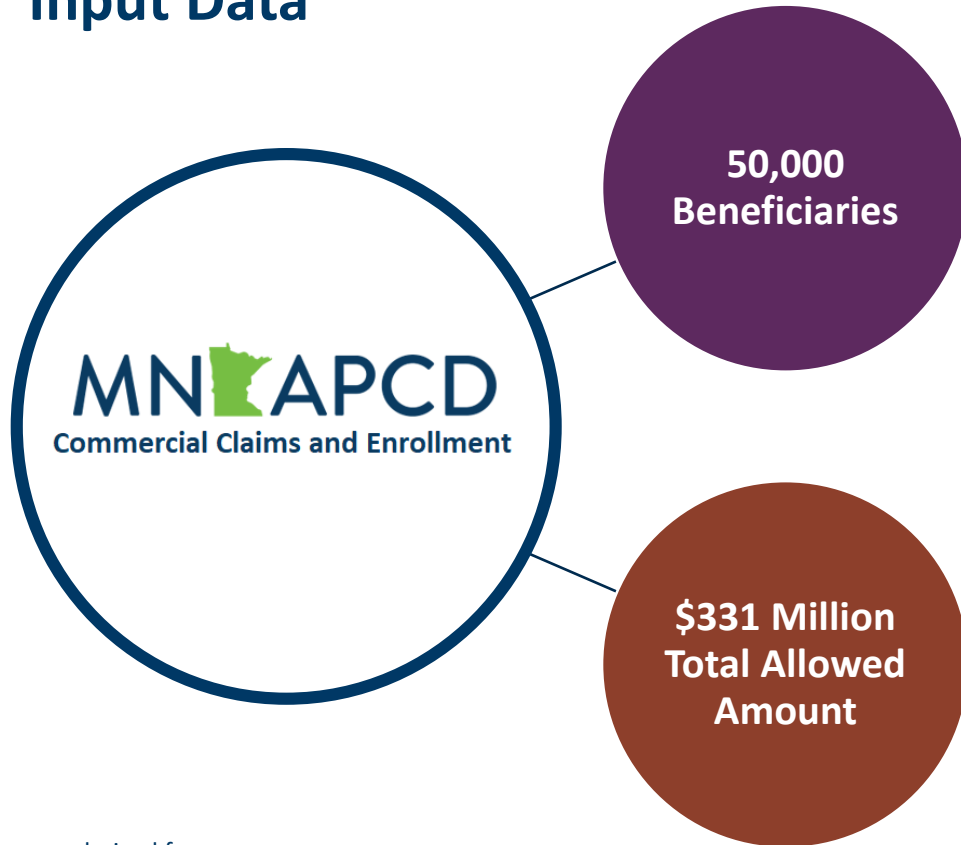


## Preliminary Results

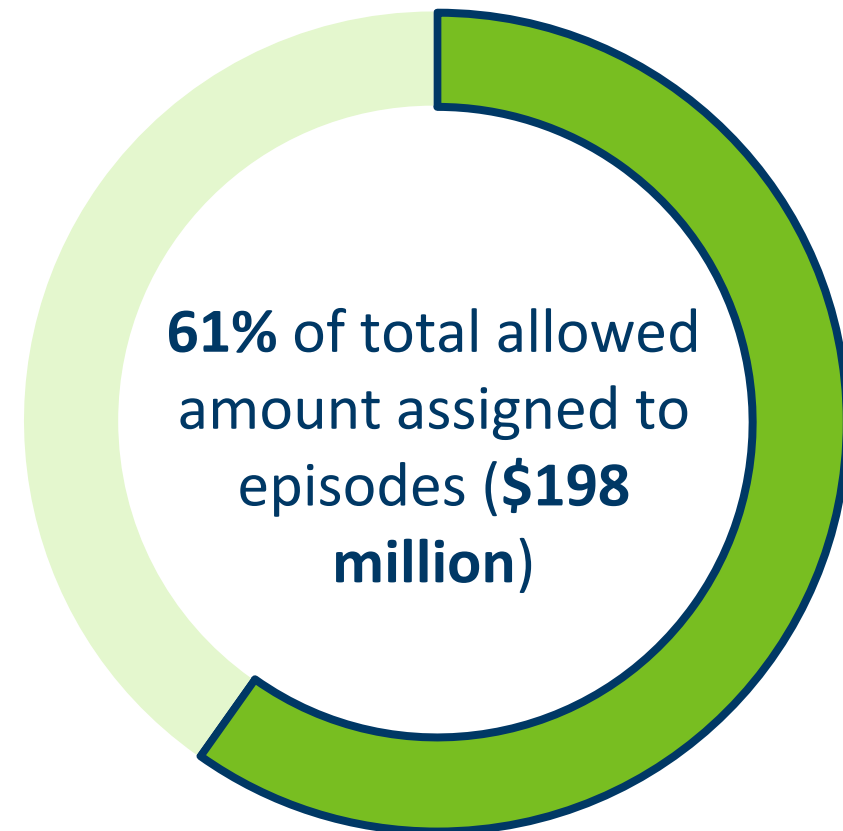
# Preliminary Episode Spending Analysis

## Sample of Commercially Insured Population, 2015-2017

### Input Data



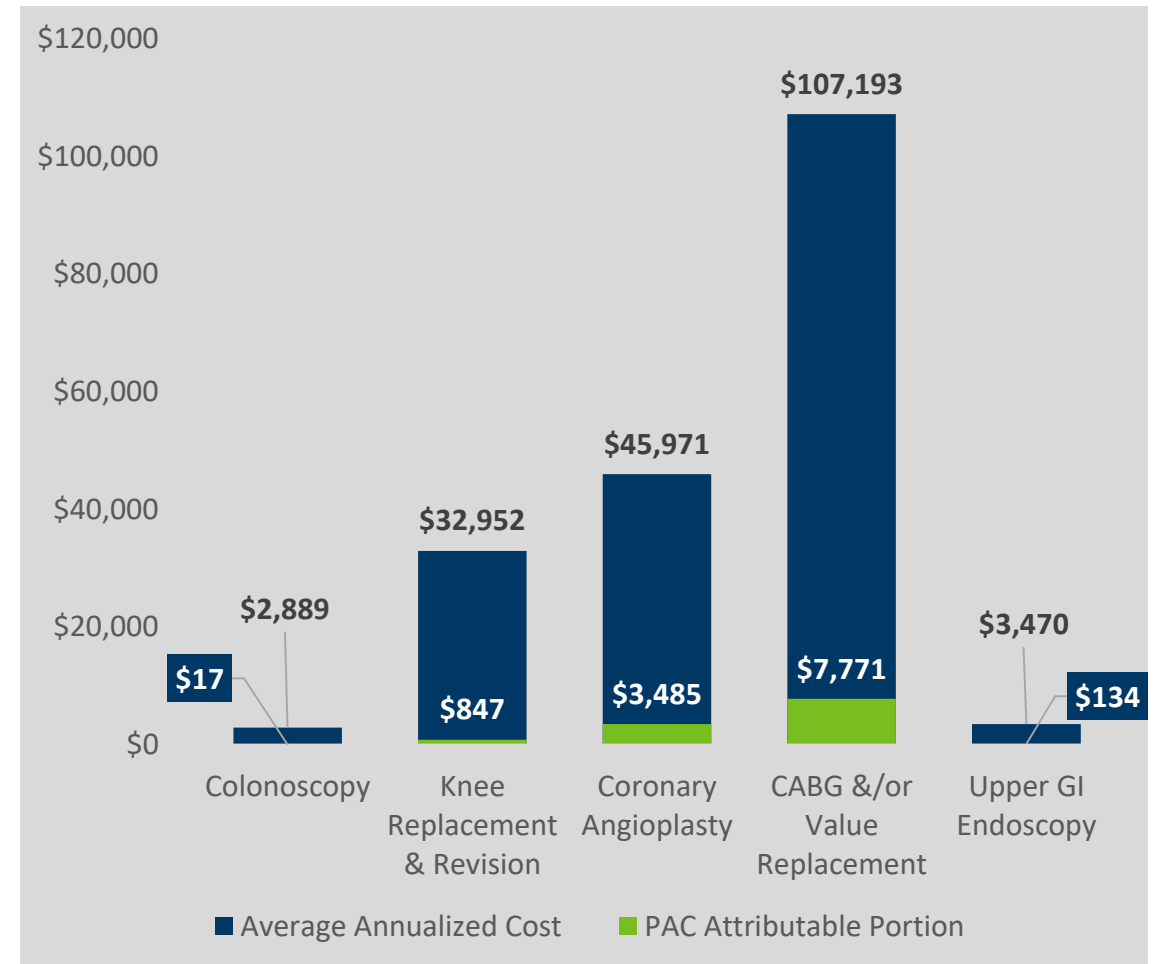
### PROMETHEUS Episodes



Preliminary results were derived from a convenience sample of Minnesota's commercially enrolled individuals. Data shared today are illustrative and not intended for inference.

# Procedural Episodes with Highest Spending

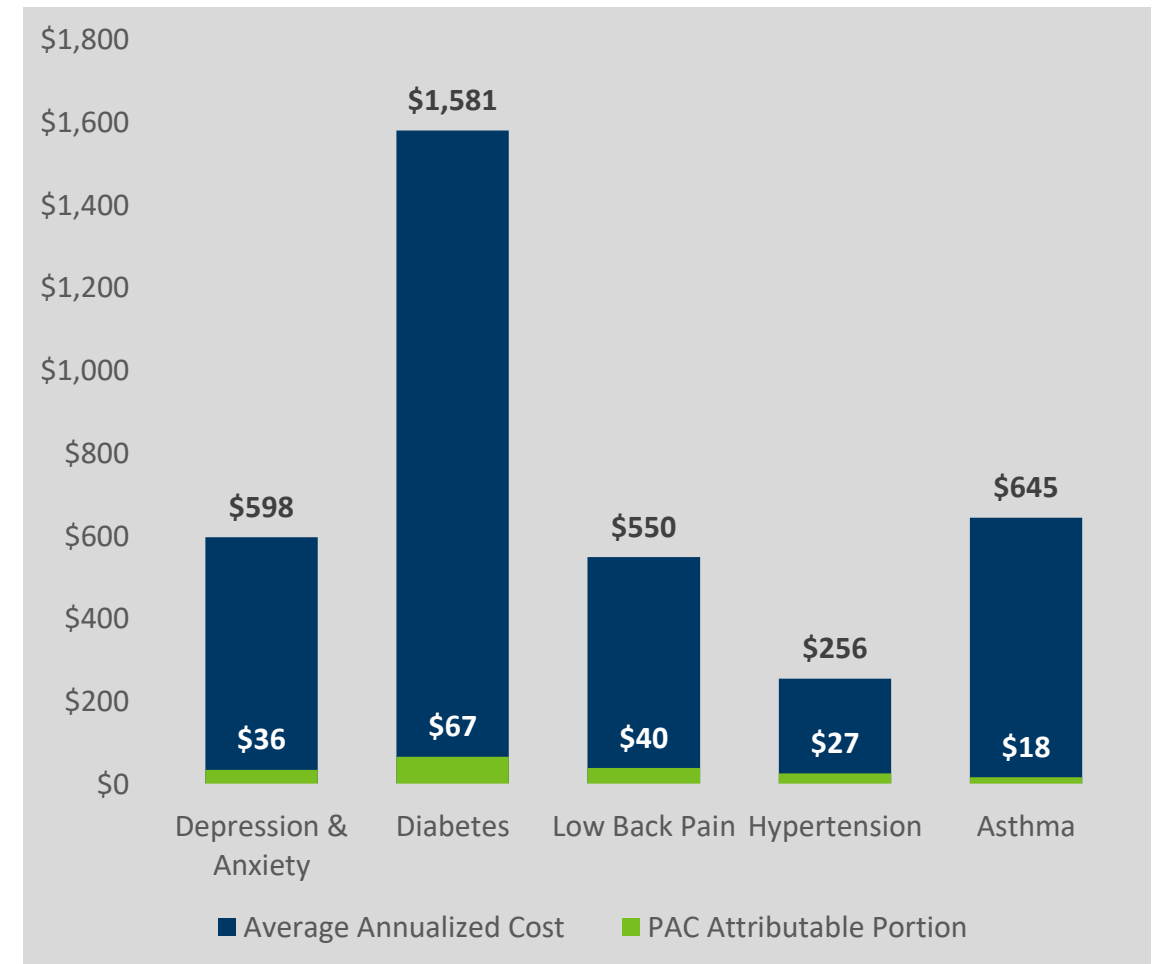
- Annualized and unsplit costs
  - Reflect total cost of care
  - Can apply to concurrent episodes
- Variation in proportion of costs attributable to PACs
  - 0.6% (Colonoscopy)
  - 7.6% (Coronary angioplasty)





# Chronic Episodes with Highest Spending

- Annualized and unsplit costs
  - Reflect total cost of care
  - Can apply to concurrent episodes
- Variation in proportion of costs attributable to PACs
  - 4.3% (Diabetes)
  - 10.6% (Hypertension)



# In Summary

Continue Shedding Light on Health Spending

Chronic conditions

Procedural episodes

Identify Opportunities for Further System Efficiencies

Cost associated with avoidable complications

Effect of variation in services use on cost & outcomes

Build Out PUF Portfolio

First Generation + new designs underway

PUFs with applied value

But:  
Episode Grouping Is Complex

Computationally and analytically challenging

Challenging to apply concept to multi-payer data

A lot needs to go right

# Thank you!

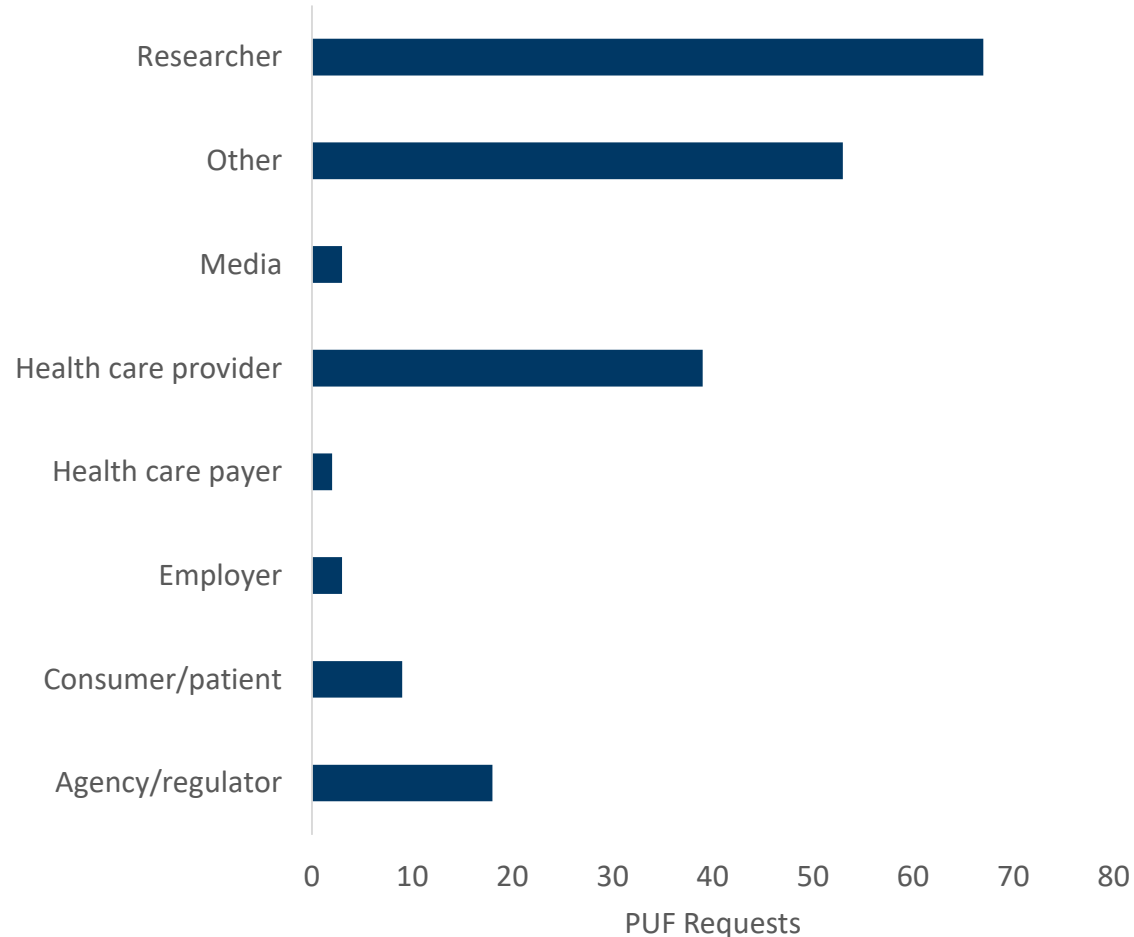
Health Economics Program: [www.health.state.mn.us/health/economics](http://www.health.state.mn.us/health/economics)

Health Care Market Statistics: [www.health.state.mn.us/data/economics/chartbook/](http://www.health.state.mn.us/data/economics/chartbook/)

Minnesota All Payer Claims Data: [www.health.state.mn.us/data/apcd/](http://www.health.state.mn.us/data/apcd/)

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# PUF Requesters



- Approximately 200 individuals have requested the first generation of PUFs since 2016
- Average of about 6 requests per month
- Most individuals request all 3 PUFs