# Using APCDs the Minnesota Way – Above Average?

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# Our Goals for the MN APCD

**Identify** opportunities in delivery system reform

**Engage** stakeholders in a conversation about quality improvement

**Support** providers with statewide benchmarks derived from the MN APCD

**Demonstrate** the public policy value-add of the MN APCD

DEPARTMENT
OF HEALTH

# Pharmaceutical Spending and Use in Minnesota

MN APCD

All Payer Claims Database

Why conduct research on pharmaceutical spending in MN?

- Consumers are feeling the negative economic impact

- State is burdened by higher spending for public programs

- Pharmaceutical spending is expected to be a persistent problem through 2021[1]

- Pricing transparency may not be a game changer—further understanding of trends may inform other policy options

[1]QuintilesIMS Institute, "Medicines Use and Spending in the U.S.: A review of 2016 and Outlook to 2021," http://www.imshealth.com/en/thought-leadership/quintilesims-institute/reports/medicines-use-and-spending-in-the-us-review-of-2016-outlook-to-2021

- Study Goals

  - "Kick the tires" of the MN APCD

  - Understand pharmaceutical trends at more granular levels than in past

  - Examine specific trends: distribution channel, payer category, type of prescription, care settings, & pricing variation for individual drugs

  - Build longer-term state expertise

- Request for proposals (RFP) in June 2015 to bring on board pharmacoeconomics and data management expertise

  - Selected University of Minnesota School of Pharmacy team

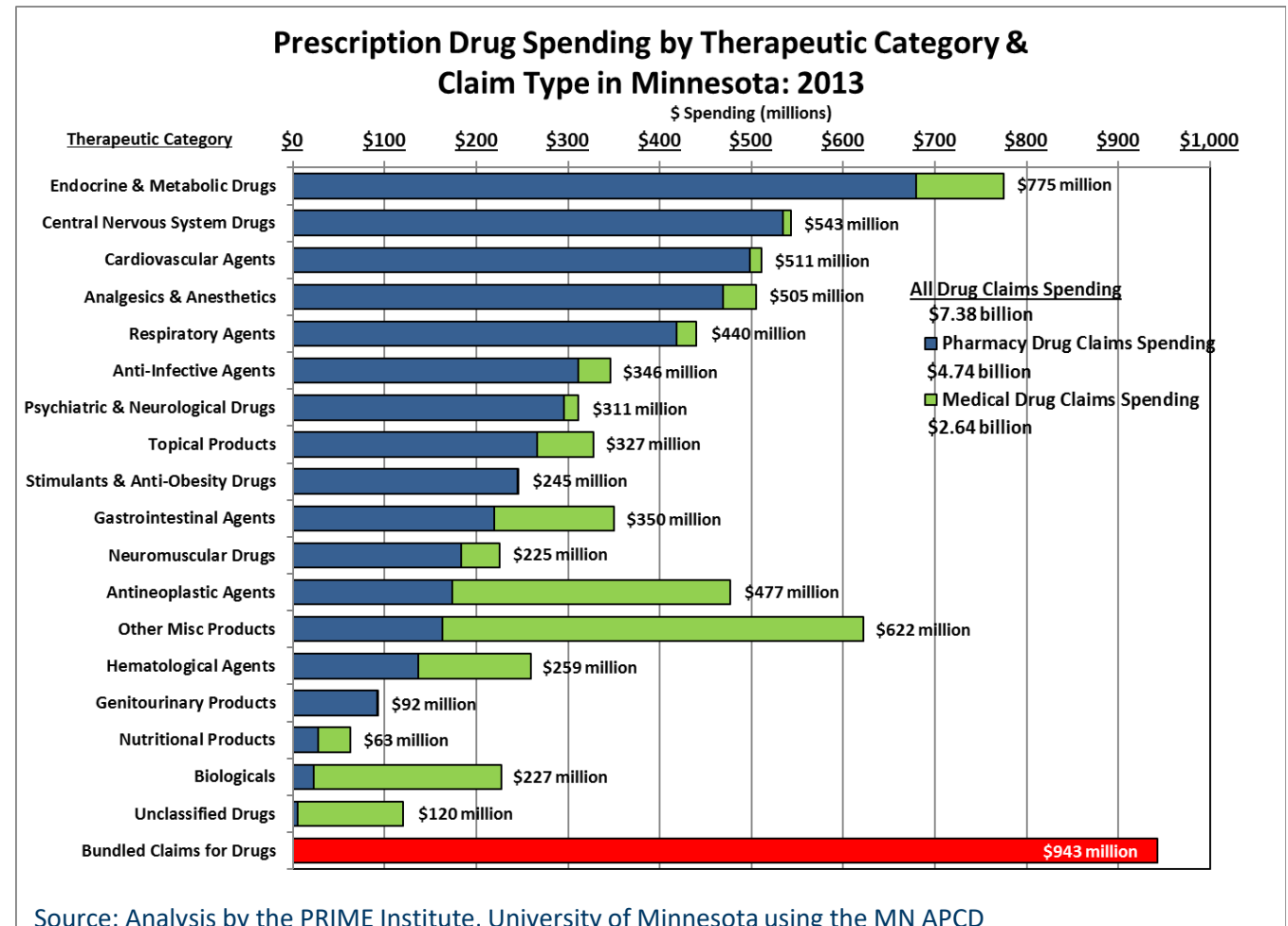  - Pharmacists, data managers, economists

# Analysis Steps

- Examined data fields to understand contents and importance

- Assessed data quality in the context of expected trends and internal validity

- Identified and removed duplicate claims from pharmacy and medical claims

- Enhanced MN APCD with Medi-Span, including formulation type, pricing and market history, and brand status

  - Pulled pharmacy claims using National Drug Code (NDC) combined with a generic product indicator (GPI) from Medi-Span

  - Pulled medical claims using codes from Level II of the Healthcare Common Procedure Coding System (HCPCS), including J-codes and related codes

Organized by therapeutic category, some drugs cannot be assigned or revealed:

- Unclassified drugs, $120 million in spending

- Bundled claims for drugs, $943 million in spending



**Prescription Drug Spending by Therapeutic Category & Claim Type in Minnesota: 2013**

$ Spending (millions)

| Therapeutic Category | Value |
|---|---|
| Endocrine & Metabolic Drugs | $775 million |
| Central Nervous System Drugs | $543 million |
| Cardiovascular Agents | $511 million |
| Analgesics & Anesthetics | $505 million |
| Respiratory Agents | $440 million |
| Anti-Infective Agents | $346 million |
| Psychiatric & Neurological Drugs | $311 million |
| Topical Products | $327 million |
| Stimulants & Anti-Obesity Drugs | $245 million |
| Gastrointestinal Agents | $350 million |
| Neuromuscular Drugs | $225 million |
| Antineoplastic Agents | $477 million |
| Other Misc Products | $622 million |
| Hematological Agents | $259 million |
| Genitourinary Products | $92 million |
| Nutritional Products | $63 million |
| Biologicals | $227 million |
| Unclassified Drugs | $120 million |
| Bundled Claims for Drugs | $943 million |

All Drug Claims Spending
$7.38 billion
■ Pharmacy Drug Claims Spending
$4.74 billion
■ Medical Drug Claims Spending
$2.64 billion

Source: Analysis by the PRIME Institute, University of Minnesota using the MN APCD

Researchers experienced a steep learning curve on this early MN APCD project:

- Documentation for researchers was spotty

- Little internal expertise w/Rx data

- Understanding quality checks and processes completed by the data collection contractor was time consuming

- Variable definitions in the data dictionary had to be tested in applied settings
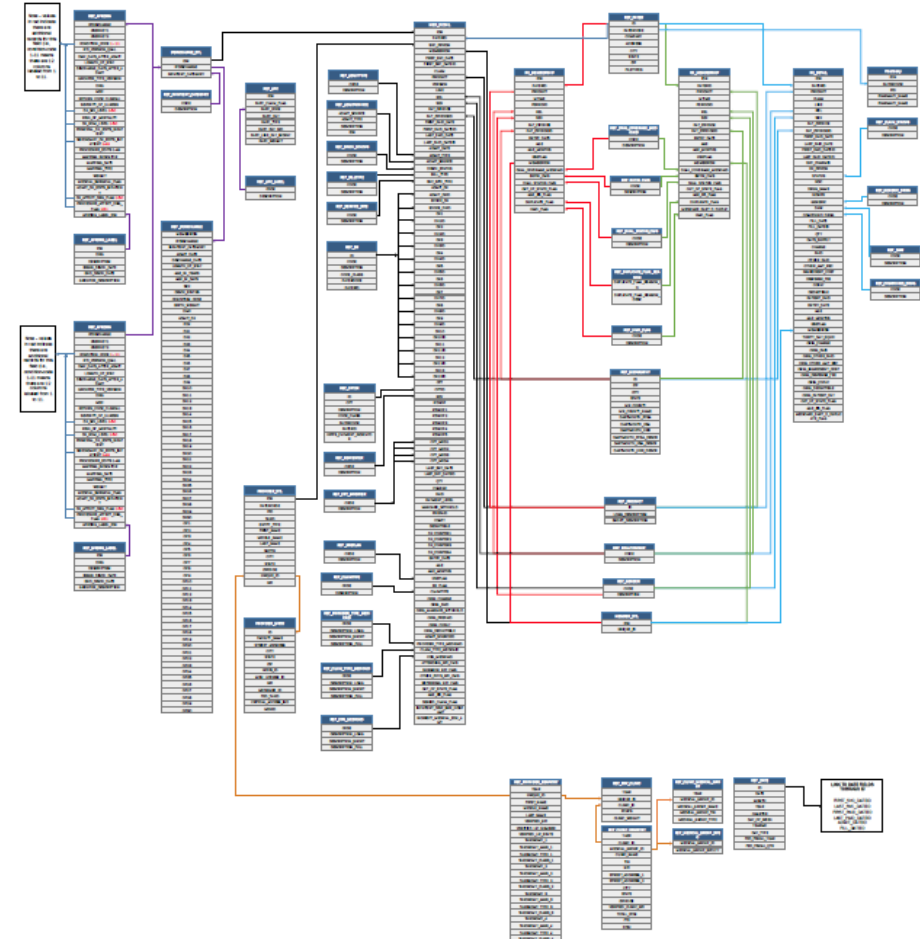
- Data cleaning and understanding adjudi-cation/payer streams was labor- and time-intensive

- Needed to account for duplicate claims across Medicare Part D and commercial

- Translating claims and scientific pharmaceutical language required deliberate input from communications team

- Work took much longer than anticipated

  - Delayed publication of results

  - Older data became more aged



| REFERENCE ID | WAREHOUSE NAME | COMMON NAME | TYPE | MAX. LENGTH | DESCRIPTION |
|---|---|---|---|---|---|
| PC821 | IDN | Identification Number | NUMBER | 20 | This field uniquely identifies the record within the warehouse. |
| PC803 | PAYERID | Payer ID Number | NUMBER | 38 | This is the Payer ID Number that links to the REF_PAYER file using DWPAY801. It is derived from PC001. |
| PC802 | PRODUCT | Standardized Insurance Type / Product Code | VARCHAR2 | 6 | This is the product identification number and is a voluntary field for pharmacy claims. This field links to the REF_PRODUCT file using DWPR801 and is derived from PC003. |
| PC004 | CLAIM | Payer Claim Control Number | VARCHAR2 | 53 | This field contains the claim number used by the payer to internally track the claim. In general the claim number is associated with all service lines of the bill. Therefore, multiple medical records may share the same claim number. This must apply to the entire claim and be unique within the payer's system. |
| PC005 | LINE | Line Counter | NUMBER | 4 | This field contains the line number for this service. The Line Counter begins with 1 and is incremented by 1 for each additional service line of a claim. |
| PC011 | REL | Individual Relationship to Subscriber | VARCHAR2 | 2 | This field contains the member's relationship to the subscriber or the insured. This field links to the REF_RELATIONSHIP file using DWR801. |
| PC012 | SEX | Standardized Member Gender | VARCHAR2 | 2 | This is the Member Gender code that links to the REF_GENDER file using DWG801. |
| PC016 | PAT_ZIPCODE | Member ZIP Code | VARCHAR2 | 5 | This field contains the member's ZIP code. |
| PC807 | PAT_ZIPCODEID | Member ZIP Code ID | NUMBER | 20 | This is the ZIP Code ID Number that uniquely links to the REF_GEOGRAPHY file using DWGEO801. While the required format is numeric, this field is stored in the warehouse as text to preserve any leading zeroes. The ZIPCODEID field was created for efficient processing of large data sets. Use this field when reporting by geographic area. |
| PC808 | FIRST_PAID_DATE | First Date Service Approved | DATE | 8 | Multiple paid dates may occur for the same claim as part of the adjudication process. This field contains the First Date Service Approved associated with the claim. In text-formatted extracts only, this DATE field will be presented in a CCYYMMDD format. |

RX_DETAIL / RX_DETAIL_YYYY

Pharmaceutical spending and use in Minnesota: 2009-2013, key findings:

- $7.4 billion overall pharmaceutical spending in 2013

- Pharmaceutical spending rose 20.6% from 2009 to 2013

- Spending in medical claims accounted for 55.1% of growth from 2009 to 2013

- Spending in pharmacy and medical claims accounted for about 20% of total care in 2013

Source: MDH/Health Economics Program, "Pharmaceutical Spending and Use in Minnesota: 2009-2013," issue brief, http://www.health.state.mn.us/healthreform/allpayer/RxIssueBrief1Proof20161102.pdf.
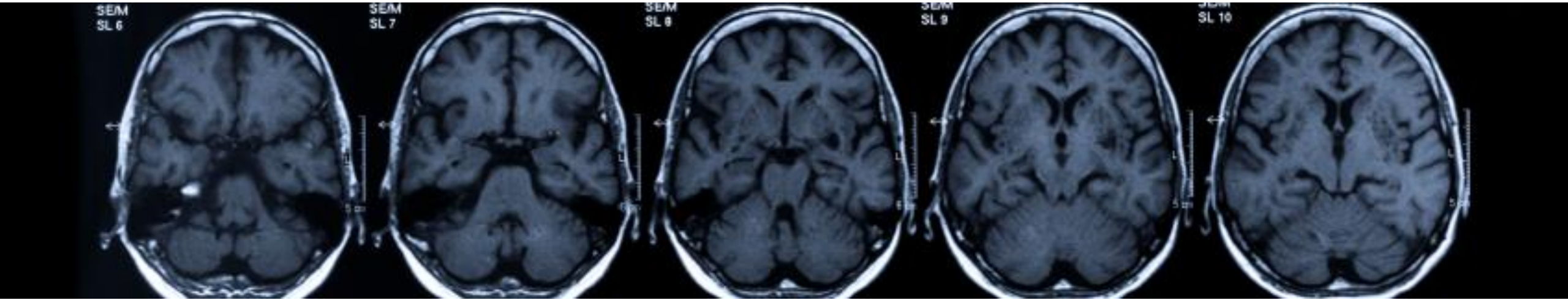
# Overuse and Misuse of Health Services

Policy and decision makers have an obligation to address the 30 percent of health spending that is "wasteful" or confers no health benefit
(Berwick 2012)

**Mayo Clinic** – Researchers and clinicians at the assisted with

- Selection of service measures

- Interpretation of results

- Clinical context and framing of sensitivity analysis

# Currently Available Measures of Low-Value Care

## Number of Measures: Total ≈ 450
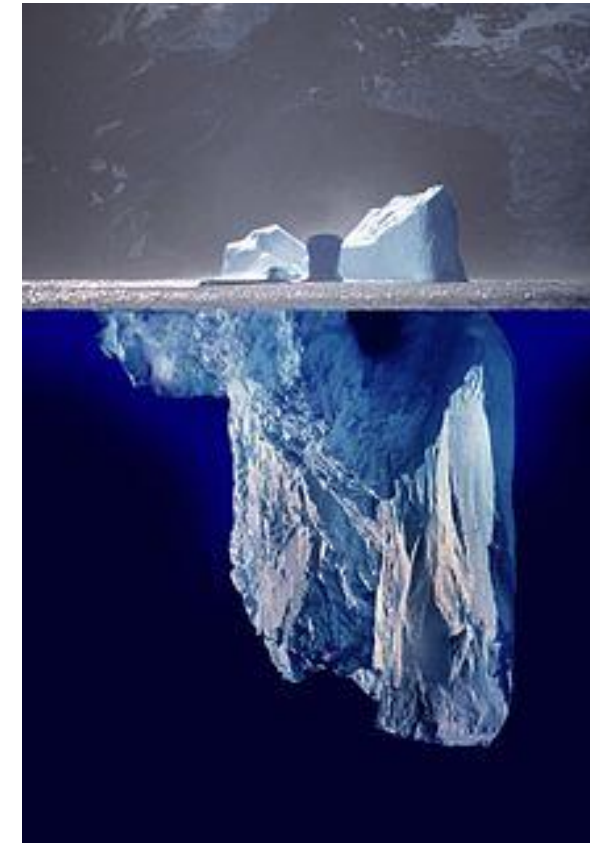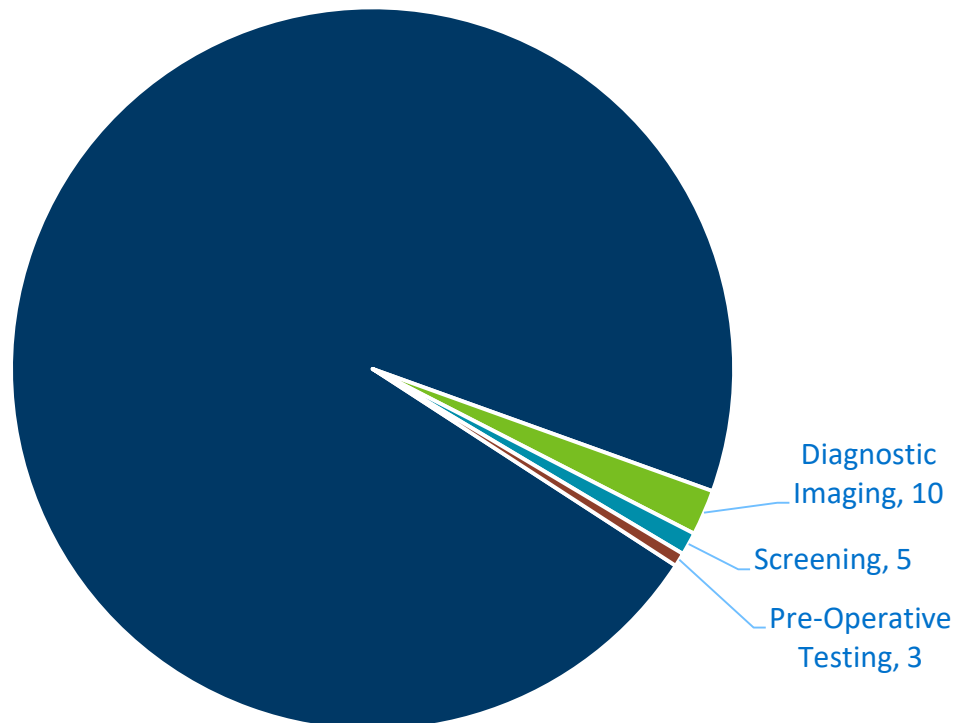


Diagnostic Imaging, 10

Screening, 5

Pre-Operative Testing, 3

Each service had been identified as low-value by providers or quality measurement initiatives:

- Choosing Wisely

- US Preventative Services Task Force

- CMS Quality Measures

- National Institute for Clinical Excellence (NICE) – UK

# Step 2: Identify Existing Operational Definitions

Operational definitions for measures from:

- CMS Hospital Compare Outpatient Measures

- Schwartz et al (2014) and Segal et al (2014)

- Washington Health Alliance Choosing Wisely report

- NCQA HEDIS 2016

# Step 3: Apply Existing Definitions to the MN APCD

- Professional and facility claims submitted to the MN APCD for outpatient services provided Jan 1 2014 – December 31 2014

- For measures requiring an assessment of claims history/prior conditions, professional and facility claims from CY 2013 were used

- Inclusions/exclusion criteria specified by each identification algorithm

- **Encounter based**: The beneficiary had an encounter where a low-value service could have been delivered.

  - Ex: An outpatient visit with a headache Dx where imagining could have been performed

  - Encounter = all claims for a unique individual on a unique 'first date of service'

- **Population based**: A beneficiary was at risk for a low-value service in a given month.

  - Ex: Each month a woman with coverage past 65 is 'at risk' for a low-value cervical cancer screening

  - Denominators expressed as person-time at risk

Costs summed over all claims identified by claims algorithm and attributed to the insurance type on each claim

- This underreports costs because it fails to capture services delivered *due to* the delivery of a low-value service

  - Ex: May not measure costs associated with reading diagnostic imaging – only the imaging itself

Differences in measure definition cause differences in cost measurement.

- Some algorithms included both facility and professional claims, others looked at only facility or only professional claims

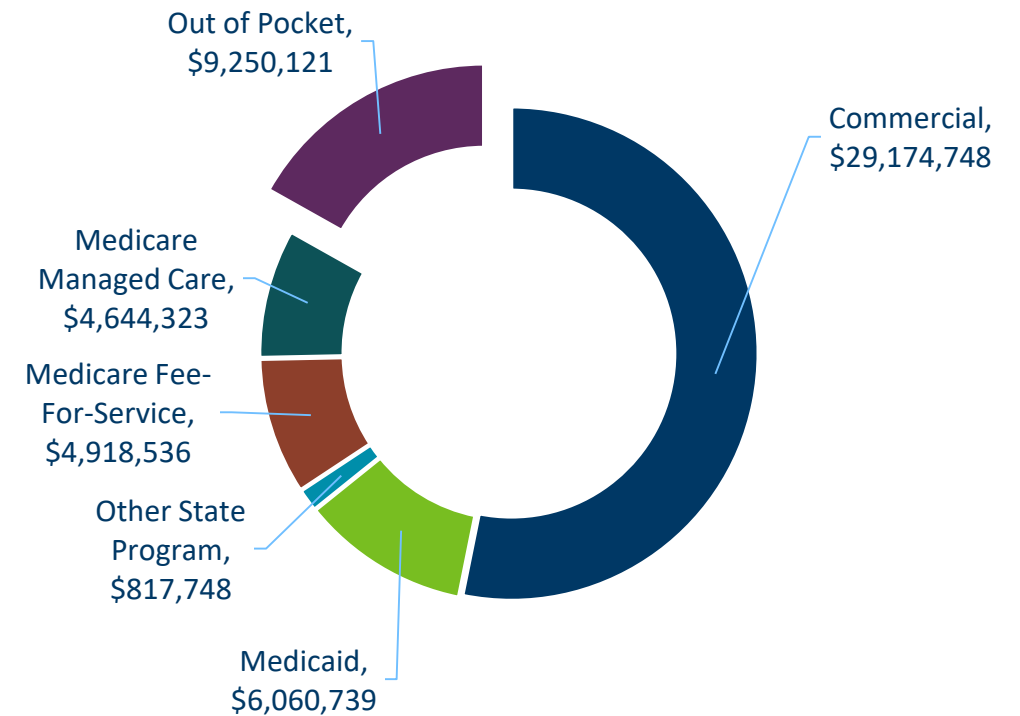- Measures varied in the stringency of their exclusion criteria

# Challenges and Lessons Learned

- Differences in claims reporting/coding across providers and payers

  - Data aggregation with consistent submission standards for the APCD help reduce this threat.

- Multiple payers submitting claims for the same service encounter

  - Limit outpatient encounters to one per beneficiary per day. Could underestimate service delivery but ensure that services are not double counted due to multiple payers.

- Complicated, fragmented information on patient cost-sharing and provider billing

  - Aggregated to plan and out-of-pocket payments to reduce variation caused by differential payer coding of payments

- Difficulty in categorizing clinical encounters into payer types – enrollment data lacks the context necessary to determine a beneficiary's primary source of insurance coverage

  - Assign dollars, but not encounters, to payers. Or develop a plausible rule for encounter attribution (majority of claims, majority of dollars)

# Challenges and Lessons Learned, cont'd

- Outcome measures are sensitive to the population/service definitions embedded in the identification algorithms

  - Reported the conservative definitions because our goal was to engage stakeholders

  - Future: emphasize interval; look for revenue generating LVS; recognize the conceptual 'fuzziness' of many low-value services

- Claims data lacks the clinical detail to understand why particular low-value services are delivered

  - New research examines physician factors that affect delivery of low-value services.

  - Likely a need for non-claims based low-value services research (chart abstraction, qualitative research)

- The uniqueness of APCD data and scarcity of state-level low-value services estimates make cross-state comparisons difficult

# Number of encounters and total Minnesota spending on select low-value services, 2014



Bar chart — Number of Encounters:
- CT Scans: 22,922
- MRI, X-Ray, Other (inc. some CT): 69,256
- Selected Cancers: 45,146
- Carotid Artery Stenosis: 23,598
- X-Rays: 11,562
- Other Tests: 3,070

Categories: Imaging (CT Scans; MRI, X-Ray, Other), Screening (Selected Cancers; Carotid Artery Stenosis), Pre-Operative Testing (X-Rays; Other Tests)

Donut chart — spending:
- Out of Pocket, $9,250,121
- Commercial, $29,174,748
- Medicare Managed Care, $4,644,323
- Medicare Fee-For-Service, $4,918,536
- Other State Program, $817,748
- Medicaid, $6,060,739

Takeaways on Both Projects

# Successes & Best Practices

Engagement with diverse stakeholders during the planning and analysis process helped us develop a compelling narrative around low-value care that reached a broad audience

Engaging with the clinical community helped to ensure that providers and health systems found the benchmark measurements useful for their internal efforts

Publication of a technical appendix to the report was well-received by researchers and those interested in replicating or benchmarking to our analysis

This project demonstrated that service identification algorithms developed on other data sets (Medicare, commercial claims warehouses) can be adapted to the all-payer environment

… but it's not always easy or straightforward!

# How to Get More Information on Both Projects?

**Low-value services**

- Issue Brief
- Technical supplement w/sensitivity analyses, specifications, references to work by others, thoughts on cost analysis, select additional data tables

**Rx**

- Issue Brief(s)
- Vendor technical report (in development)

# Thank you!

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*MN APCD Home Page: www/health.state.mn.us/healthreform/allpayer*