Using All Payer Claims Data to Evaluate Healthcare Cost and Quality Variation in Four States

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Healthcare Delivery Systems Analysis

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Background

- The Network for Regional Healthcare Improvement (NRHI) and four of its members in Colorado, Massachusetts, Oregon, and Utah partnered with the National Bureau of Economic Research (NBER) and Harvard University in a study funded by the Agency for Healthcare Research and Quality (AHRQ)*.

- Healthcare Delivery Systems Analysis (HDSA) is the second of five projects (Project 2) being facilitated through the U19 study by NBER and Harvard University.

  Goal: To understand the economic costs and quality consequences of healthcare delivery systems organization.

* Agency for Healthcare Research and Quality U19HS024072

Objective

- APCDs or MPCDs represent an important source of information about healthcare delivery in the United States.
- These datasets inform policy development, quality improvement, public health, healthcare services research, and consumer choice by promoting transparency.
- APCDs could support a variety of stakeholder efforts to obtain a clearer picture of healthcare cost, quality, and utilization across states or regions.
  - ✓ Potential barrier: Lack of standardization
- The objective of this presentation is to report one set of techniques to overcome the lack of standardization barrier.
  - ✓ We will describe the steps used by the four state partners to develop standardized datasets to produce comparable cost and quality measures.

Methods

- Preliminary analysis of APCD comparability and data quality across the four states showed that available fields, data definitions, and completeness and accuracy of claims data varied.

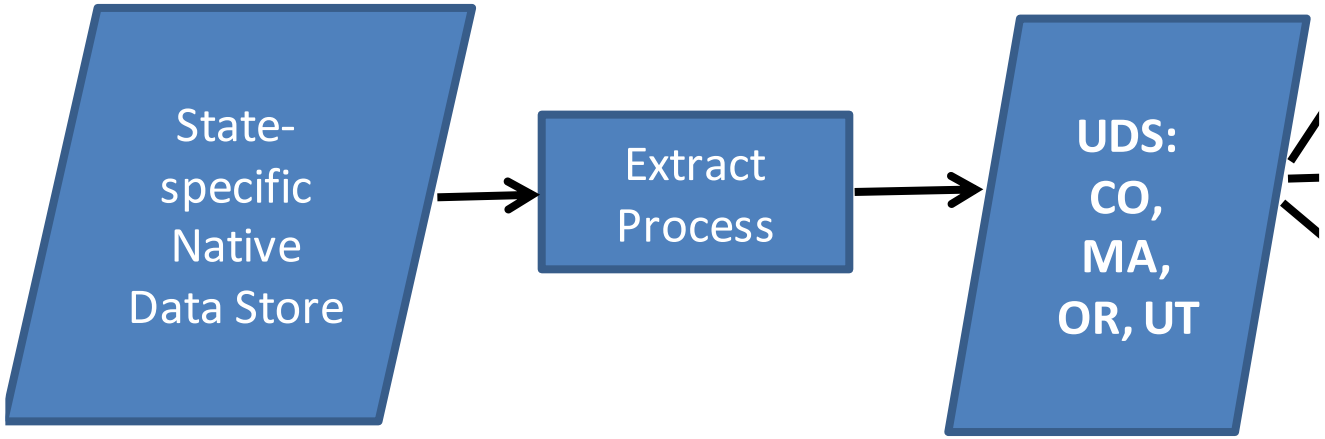
- Determining Sample Exclusions and Minimum Data Requirements: Only payers with complete information were included.

- This work required a detailed understanding of the datasets, collaborative relationships with each other and local partners, and broad standardization.

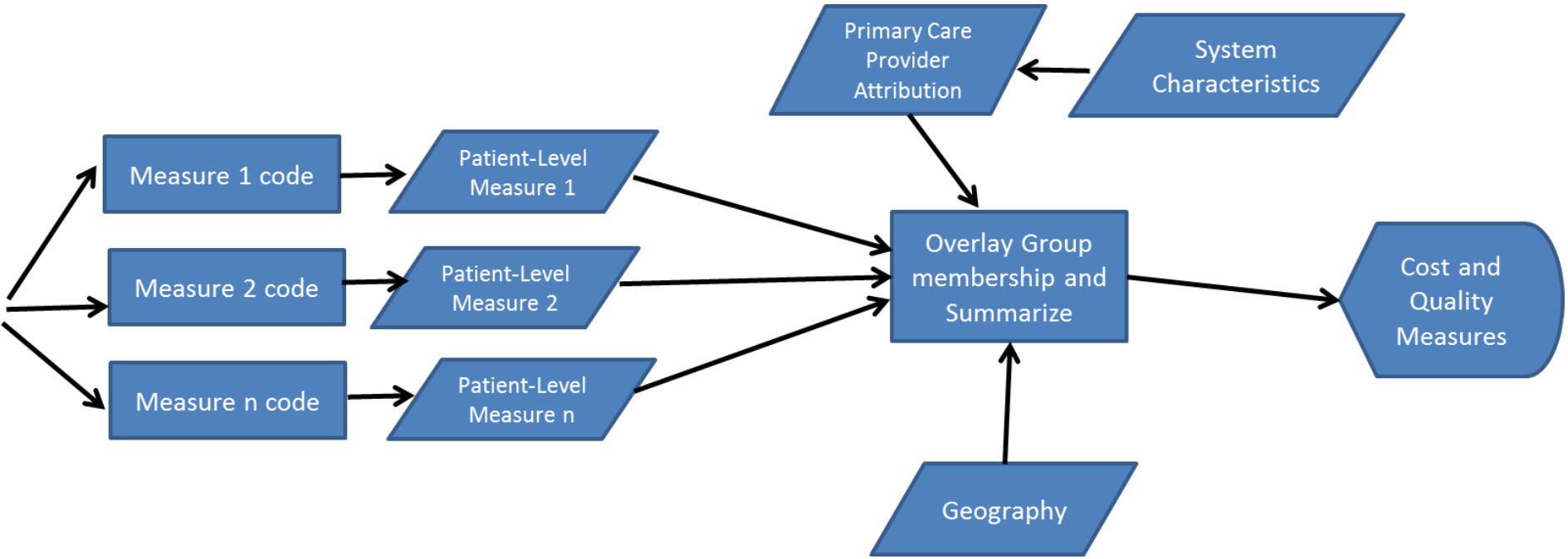
- The states took several steps to standardize dataset elements, measure specifications, SAS code, and adjustment for population differences in age and sex to ensure cost results were comparable.

Methods: Developing a Uniform Data Store (UDS)

- Eight relational tables included in the UDS: member eligibility, professional procedures, professional diagnoses, facility header, facility detail, facility surgical procedures, facility diagnoses, and pharmacy claims.



Methods: Using UDS to Produce Cost and Quality Measures



Methods (Continued)

- Provider specialty mapping
- Attribution of patients to providers
- Attribution of patients to geographic regions
- Developing and executing measure code
  - ✓ States used common SAS code to calculate measures on their UDS
- Corroboration of Final Results
  - ✓ Checking results against other state reports
  - ✓ Sharing initial results with local leaders

Healthcare Cost

(Commercial Payers, 2014)

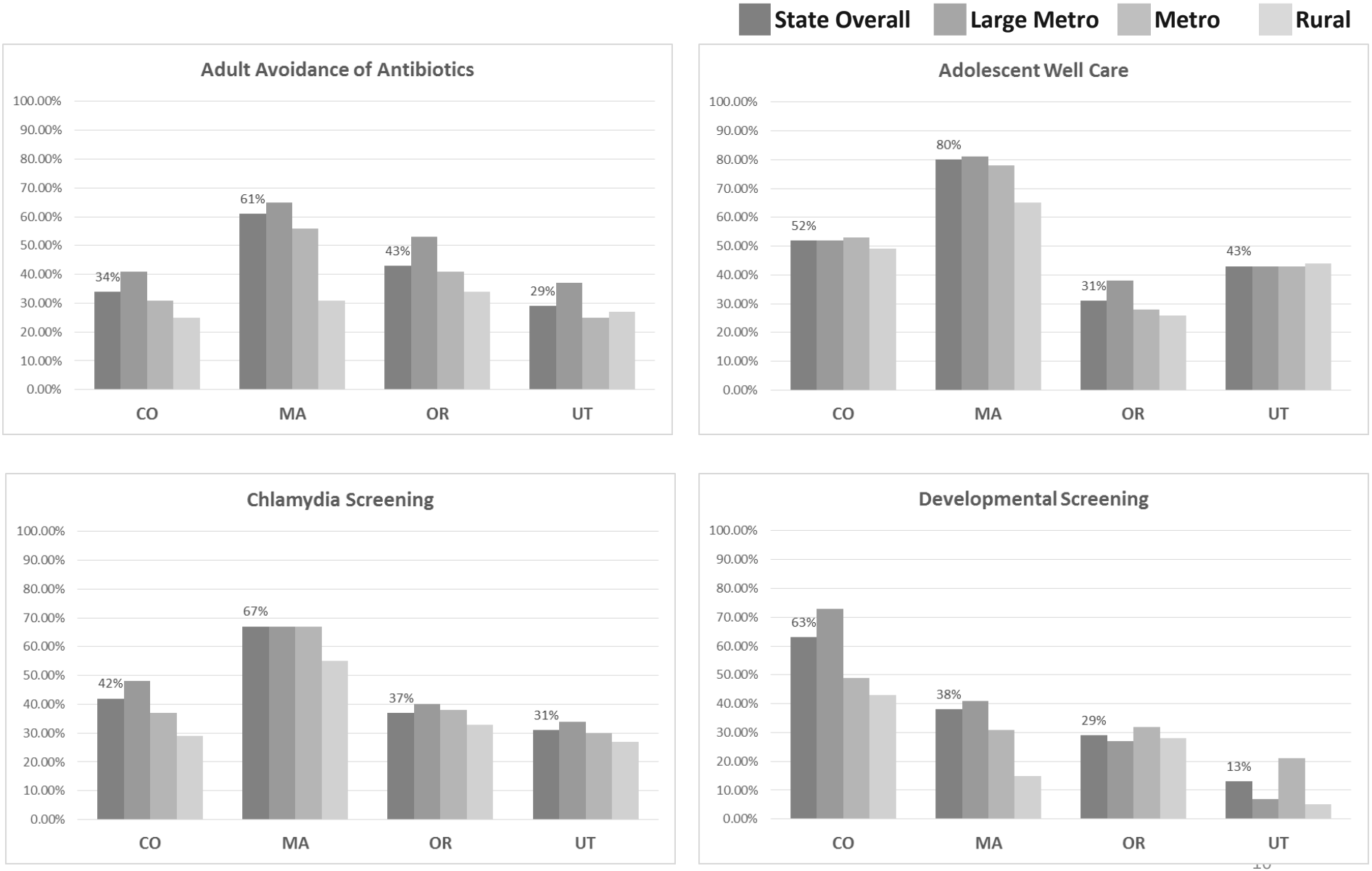
Age/Sex Adjusted Per Member Per Month (PMPM) Medical Spend by Geographic Area	Colorado			Massachusetts			Oregon			Utah		
	Age/sex adjusted PMPM	Average age/gender adjustment	Medical member (N)	Age/sex adjusted PMPM	Average age/gender adjustment	Medical member (N)	Age/sex adjusted PMPM	Average age/gender adjustment	Medical member (N)	Age/sex adjusted PMPM	Average age/gender adjustment	Medical member (N)
Overall	**$456**	1.09	809,296	**$456**	1.02	2,164,237	**$404**	1.12	500,055	**$406**	0.92	796,412
Large Metro	$434	1.08	468,657	$465	1.01	1,160,749	$391	1.10	194,459	$404	0.95	285,824
Metro	$445	1.09	222,877	$439	1.04	689,150	$400	1.12	177,219	$403	0.89	351,848
Micro, Rural, CEAC	$559	1.14	117,762	$573	1.10	8,628	$428	1.15	128,377	$417	0.94	158,740

Consensus Measure set - Quality Measures

Measure	Abbreviation	Source
Avoidance of Antibiotic Treatment in Adults with Acute Bronchitis	Adult Avoidance of Antibiotics	NCQA/HEDIS®
Follow-up Care for Children Prescribed Attention Deficit Hyperactivity Disorder (ADHD) Medication	ADD Initiation Phase ADD Cont & Maint Phase	NCQA/HEDIS®
Antidepressant Medication Management	AMM Acute Phase AMM Continuation Phase	NCQA/HEDIS®
Adolescent Well-Care Visits	Adolescent Well Care	NCQA/HEDIS®
Chlamydia Screening	Chlamydia Screening	NCQA/HEDIS®
Developmental Screening for the First 36 Months of Life	Developmental Screening	Oregon Health & Science University
Hospital Admissions for Ambulatory-Sensitive Conditions–Acute Composite	Admissions for ASC- Acute	AHRQ Prevention Quality Indicator (PQI)
Hospital Admissions for Ambulatory-Sensitive Conditions–Chronic Composite	Admissions for ASC-Chronic Composite	AHRQ PQI

Subset of Quality Measures by Geographic Designation

Commercial Payers 2014



Limitations

- APCD's Data Collection Processes Vary:
  - ✓ Varying business rules around data collection (e.g., substance use data).
  - ✓ Choice of quality measures based on the data availability.
  - ✓ Availability of self-insured plans.

- APCD's Data Use Regulations Vary:
  - ✓ States use APCDs for transparency initiatives to inform state policy by creating mandated reports, but not all states have regulated data uses for operational purposes or to conduct research.

Discussion

- Value of the external technical advisor and creation of UDS file format
- Value of local data and market knowledge
- Standardization to support development of comparable metrics is possible
- Foundation to develop solid multi-factorial model to explain healthcare performance variation within and across states.

Conclusion

- Feasibility of comparison across four states with vastly different geographies, healthcare policies, APCD mandates, and data ownership.
- Valuable path forward in leveraging state-level datasets for healthcare performance assessment, and meaningful comparisons across states.
- Potential of APCD analyses, coupled with local knowledge generated within states, to maintain and utilize robust data sets.
- As adoption of value-based payment arrangements accelerate, so will the interest in multi-state comparisons of cost, quality, and utilization.