



Making Use of All-Payer Claims Databases for Health Care Reform Evaluation

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State All-Payer Claims Databases (APCDs) are repositories of health care claims (i.e., bills for medical services rendered) from multiple payers for the purposes of analyzing and monitoring state-level cost and quality of health care. Aggregated claims are collected from both public and private payers including Medicare, Medicaid, and the Children's Health Insurance Program (CHIP), as well as commercial health plans and self-insured plans. APCDs have the potential to contribute to better understanding of cost trends, key drivers of costs, and quality differences among provider peer-groups and geographic areas. State analysts are also able to drill down on health care use and costs by key patient characteristics such as age, gender, and diagnosis.

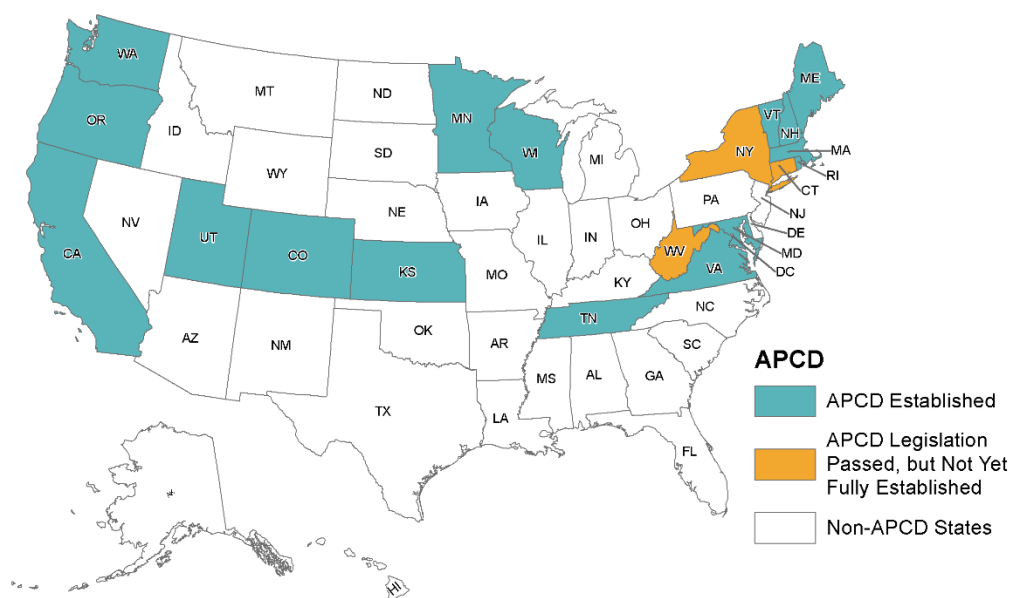
State level interest in APCDs is growing, with more than 30 states having either established APCDs or expressing strong interest in developing them.^{1,2} Yet, the full potential of APCDs for cost and quality analysis at the state level is mostly undeveloped and/or underutilized. This paper provides an update on state-operated APCD development, with a focus on potential analytic uses and capabilities. The purpose is to highlight key questions that APCD data and analysis can answer on their own, or when linked to other data resources. These questions are organized under broad topics related to health care reform: health care spending, price transparency, health care quality, and payment reform evaluation. Within these sections, we provide detail on topics of interest to state agencies, policymakers, and data analysts. Throughout the paper, we provide examples of existing state uses of APCDs, reporting templates, and dashboards to highlight the unique value of this state data resource.

1. Background

The United States' health care system is a multi-payer system with no central authority that organizes and pays for medical care for the general public. As such, the distribution of health insurance coverage includes a range of public and private payers and multiple complex contracting relationships with health care providers and systems of care. Because of this complexity, very few states have been able to track total health care spending across payers on a routine basis. The Office of the Actuary of the Centers for Medicare and Medicaid Services (CMS) produces annual aggregate health care spending reports for the nation and has produced state-level reports through 2009.^{3,4} Additionally, several states have developed their own systems of tracking total health care spending over time.⁵⁻⁸ While several states have developed systems to track health care spending at the state level, these systems are often at too high of a level to analyze health care spending or use of services by payer, by provider or at any sub-state level. Additionally, states' data and analytic needs have evolved to include cost containment strategies, methods for promoting price transparency, and means for evaluating the effectiveness of statewide reform efforts.

APCDs are one way for states to collect and monitor health care spending by collecting claims data from the multiple payers of care. Not-for-profit organizations and government agencies have been working on the development and proliferation of state-operated APCDs since Maine established the first APCD in 2003. More recently, California, New York, and Virginia all passed legislation to establish APCDs, and all but New York have started collecting organizing their state-level claims data. Figure 1 displays the states that have established APCDs, states that have passed legislation to establish an APCD but do not yet have the APCD up and running, and states without APCDs. Appendix I includes detailed dates of when APCD legislation was first passed, as well as the years that claims data were first collected, by state.

Figure 1. Map of State APCD Implementation



Current Status of State-Operated APCDs

As of March 2014, 15 states had passed legislation to develop APCDs (Colorado, Connecticut, Kansas, Massachusetts, Maryland, Maine, Minnesota, New Hampshire, Oregon, Rhode Island, Tennessee, Utah, Virginia, Vermont, West Virginia). In addition to passing legislation, some states have used other strategies to establish an APCD. For example, New York instituted its APCD by modifying its existing statutory authority to collect hospital discharge data. Three states (California, Washington, Wisconsin) have also established APCDs through collaboratives of health care purchasers, providers, insurers, government agencies, and other stakeholders. Other states, such as Connecticut, are leveraging new resources under the Affordable Care Act to integrate their APCDs with their state-run health insurance exchange or statewide clinical health information exchange.

State Policies for APCD Data Use

Regulations regarding use of the APCD vary by state, with some states having broad definitions of what the database will do and others having a very narrow definition. Privacy and confidentiality provisions codify details such as which data will be available, to whom, and under what conditions. For example, Maine allows data to be released to any person as long as the data are used to "improve the health of Maine citizens." Similarly, Colorado permits the release of its data to state agencies or private organizations, as long as the purpose of the request meets the goals of the Triple Aim (improved health, better care, and lower costs). In contrast, states such as Minnesota and Kansas have more restrictive data release policies. For example, Minnesota only allows the database to be used by its health department and its contractors, and Kansas permits the release of its data to select individuals only. Some states allow consumers to opt out of having their information reported to the APCD.

Governance

The governance of the APCD usually falls to the regulatory agency responsible for overseeing the private health insurance market, typically the Departments of Commerce or Insurance. There are also examples of oversight falling to the Department of Health, which is usually responsible for developing health policies and collecting health data, as well as other state agencies. A list of the state operated APCDs, along with the

organizations responsible for oversight, data sources and other key information such as relevant websites is included as Appendix II. Nearly every state with a legislatively-established APCD also requires a multidisciplinary stakeholder group to be actively involved in governance. Funding for the APCD may come from the state general fund, fees collected from providers or insurers, voluntary insurer contributions, or Medicaid federal matches. Reporting requirements establish who will be required to submit data to the APCD, what elements that data will contain, when the data will be submitted, and how the data will be submitted.^{9,10}

Establishing an APCD

Establishing an APCD requires the consideration of factors such as organizational structure, IT structure, as well as start-up and maintenance costs. Currently, most APCDs are overseen by state agencies (e.g., Department of Insurance, Department of Health), but several states with voluntary APCD efforts (e.g., CA, WA, WI) are governed by private sector and non-profit collaboratives. Additionally, almost every state with a legislatively-established APCD involves a multidisciplinary stakeholder group in the governance of the APCD. States have acquired funding for their APCDs in a variety of ways, such as through private sources such as health plans or local foundations, federal dollars, and state support. Many states rely on a combination of funding from these sources, among others. States are also required to make choices about the architecture of their IT system and its management. States seeking to establish an APCD must decide on the scope of the APCD (i.e., which payers and files will be required to submit to the APCD and how often), the form that file submissions will take, and the amount of data collection, aggregation and analysis responsibility the state will perform itself and/or contract to a vendor. The cost of establishing an APCD depends on many factors, but is especially driven by the number of data sources and platforms that the data aggregation entity must interact with and process (which is largely determined by the number of licensed payers in the state and the number of data systems associated with these payers).

Cross-State Organization

The [APCD Council](#) was initiated in 2009 to provide a forum for states implementing APCDs to share information, expertise, and insight on their development and use. The APCD Council is coordinated by the Institute for Health Policy and Practice at the University of New Hampshire (UNH) and the [National Association of Health Data Organizations \(NAHDO\)](#). The APCD Council is not a membership organization, but a loosely affiliated group established to coordinate multi-state activities, host meetings, and maintain a website that includes an interactive APCD map, relevant news and announcements, and resources. Funding is based on donations, largely from vendors and others interested in APCD development and use. (e.g., Milliman MedInsight, Onpoint Health Data, SAS, Truven Health Analytics)

The APCD Council has a multi-fold purpose:

- To serve in an information sharing capacity for those states who have developed, or are developing, an all payer healthcare claims database.
- To work across states to harmonize the rules governing data collection and data release so that researchers and others will have access within two to five years to a regional all payer dataset; the goal is for the dataset to be seamless across state lines in terms of being a longitudinal record based on the patient.
- To provide a multi-state analysis platform for policy analysis for various branches of state government.
- To provide a technical users group forum to database users.

More recently, the Agency for Healthcare Research and Quality (AHRQ) established the United States Health Information Knowledgebase (USHIK), which includes an [APCD portal](#) with data specifications and dictionaries for eleven states. As a metadata registry, the purpose of USHIK is to promote the interoperability and reuse of data among researchers, clinicians, policymakers, developers, and healthcare data users in general. The APCD portal is just one of several initiatives supported by USHIK; others include Meaningful Use, Common Formats Center for Quality Improvement and Patient Safety, Health Information Technology Standards Panel, and the Standards and Interoperability Framework.

Health Information Health Insurance Portability and Accountability Act (HIPAA) Requirements

Under the Health Information Health Insurance Portability and Accountability Act (HIPAA), Protected Health Information (PHI) is defined as individually-identifiable health information that can be linked to a person.¹¹ In order to identify and track patients across care settings, states collect information such as social security numbers, names, dates of birth, and addresses. According to Milliman MedInsight,¹² some states create non-identifiable patient numbers before the data are processed, analyzed, and/or released. In these cases, a third party vendor will often house and maintain a master patient index, or crosswalk. Other states use algorithms and encryption methods developed by the National Security Agency (e.g., SHA-512) to remove patient identifiers. Once the direct identifiers have been removed, the data are no longer considered PHI. However, states must comply with HIPAA provisions that help to prevent the indirect identification of individuals (e.g., safe harbor methods, expert determination methods, and limited data sets). Some states (e.g., CT, MN), have legal protections that exceed the HIPAA requirements.

2. Framework for Data Analysis

This section presents an analytic framework for maximizing the use of state-operated APCDs to analyze and report on key features of health care transformation goals: measuring and reducing health care costs, promoting price transparency, increasing health care quality, and evaluating transformation efforts. An overview of each topic is presented, followed by information on analytic questions and reporting requirements. For each topic area, the analytic questions were selected based on the following considerations:

- Analytic reports generated from the APCD must be actionable. Ideally, the reports should be relevant and actionable for consumers, providers, stakeholders, and policymakers. For example, price transparency reports are not actionable to consumers unless they also include quality information (i.e., the consumer would not be able to determine whether a lower price was associated with a lower quality of care).
- The analytic work conducted using the state-operated APCD should not be duplicative of other efforts within the state (e.g., quality reporting already being collected and reported).
- The analytic APCD work should focus on the unique strengths of the APCD. In most cases, the fact that most APCDs include claims files from the majority of payers within the state is the clear advantage over other data resources.

Though the intent of an APCD is to gather claims data from the majority of payers within the state, currently, most states do not have APCDs that meet that definition. For example, many states are working to incorporate Medicare data into their APCDs, but have not yet done so. Table 1 shows the data sources that have been incorporated into the APCD, by state. “Commercial” data includes all commercial products, such as health maintenance organization (HMO) plans, preferred provider organization (PPO) plans, and indemnity plans. Most states allow insurers with smaller market shares to be exempt from submitting data to the APCD. Usually, these

thresholds are based on the number of covered lives or annual premiums. For example, Utah exempts plans from submitting data if they have less than 200 covered lives.¹³ If states have announced plans to incorporate a specific type of payer into the APCD, but have not yet done so, the data source is shown in the table below as “planned.”

Table 1. APCD Data Sources by State (as of April 2014)

State	Commercial	Medicare	Medicaid	Self-Funded / Third Party Administrator (TPA)
California	✓	✓	Planned	✓
Colorado	✓	Planned	✓	Planned
Connecticut	Planned	Planned	Planned	Planned
Kansas	✓	N/A	✓	N/A
Maine	✓	✓	✓	✓
Maryland	✓	✓	✓	✓
Massachusetts	✓	✓	✓	✓
Minnesota	✓	✓	✓	✓
New Hampshire	✓	✓	✓	✓
New York	Planned	Planned	Planned	Planned
Oregon	✓	✓	✓	✓
Rhode Island	Planned	Planned	Planned	Planned
Tennessee	✓	Planned	✓	✓
Utah	✓	Planned	✓	✓
Vermont	✓	✓	✓	✓
Virginia	Planned	Planned	Planned	Planned
Washington	✓	N/A	✓	✓
West Virginia	✓	N/A	✓	✓
Wisconsin	✓	N/A	✓	✓

N/A indicates that this type of claims data has not yet been collected and the state does not have plans in place to collect them as of this writing.

3. Measuring State Health Care Spending

State operated APCDs allow states to analyze the quantity of services provided and prices paid, and to develop episode-level and person-level analyses (e.g., studying high-cost patients). This information, especially when collected over time, can help a state understand its total health care spending and the key drivers of spending, and to identify geographic areas that have higher than average spending levels. The data provide a unique opportunity to highlight potential cost drivers that may be amenable to system or policy intervention, or the data may simply highlight an unmet need for care in particular geographic area. For example, as explained in

Massachusetts' 2013 Cost Trend Report (see summary below), initial descriptive analyses using APCD data may indicate high spending levels for diabetics enrolled in private commercial carriers in a specific geographic region within the state. By adding additional information (e.g., disease prevalence in the geographic region and service utilization by payer type), as well as controlling for patient case mix (e.g., age, gender, co-morbidities), the state can start to determine if higher spending was attributable to disease prevalence or more complex cases within the region, or a different mix of services provided compared to other regions, or both.

When analyzing health care spending, states should be aware that less prevalent diseases can be associated with high costs. Research has demonstrated that individuals with more than one chronic illness account for a significant portion of healthcare spending.¹⁴ For example, 46 percent of Medicare spending was attributable to beneficiaries with six or more chronic conditions,¹⁵ and 73 percent of total costs within the VA health care system were for patients with three or more chronic conditions.¹⁶ If states were to analyze high prevalence diseases only (e.g., heart disease, diabetes), they would have an inaccurate picture of statewide health care spending. Instead, states could analyze diseases according to prevalence and utilization, as well as attributable costs (see the Massachusetts case summary below).

Below are examples of health care spending questions that states have used their APCDs to answer, or to provide insight into the issue.

Analytic Questions Examples: Health Care Spending

- What are the key drivers of health care spending in the state and how does that compare to other states and the nation as whole?
- How does health care spending vary by geographic region in the state overall and by diagnosis and patient characteristics?
- What health conditions are associated with highest spending levels across the state? Does spending for high-cost cases vary by type of payer (public, private) and by geographic area?
- What proportion of total health care spending is attributable to hospital inpatient, hospital outpatient, and physician services? Does the mix of spending vary by condition and by geographic areas of the state?
- What are the trends in health care spending by provider type, by geographic area, for persistently high-cost cases and for the state overall?
- What is the price for a bundle of services associated with a specific procedure (e.g. hip replacement, uncomplicated birth)? What was the mix of provider and services associated with this "bundle?"

Massachusetts Case Summary



[Massachusetts All-Payer Claims Database](#)

Managing organization: Center for Health Information and Analysis

Year data first collected: 2009

Data sources included:

Massachusetts Case Summary

- ☑ Commercial payers
- ☑ Medicare

- ☑ Self-funded/TPAs
- ☑ Medicaid

Massachusetts uses its APCD to monitor state health care spending and trends. The MA APCD is a key data source used to complete a legislatively-mandated annual report on “tracking the health care industry’s efforts to meet the statewide growth benchmark while identifying opportunities for improvement in cost, quality, and access.” The information presented here is based on the 2013 Cost Trend report published by the MA Health Policy Commission (Commission).

For the cost trend report, researchers used a sample of claims from the three largest commercial carriers representing 80% of the commercial market and Medicare fee-for-service. The analysis did not include data on pharmacy spending, self-pay, public MassHealth (Medicaid) spending, or spending in Medicare Advantage plans. Massachusetts used the MA APCD for two specific analyses: (1) development of a profile of high-cost patients by combining patient income, based on median income linked to a patient’s zip code; and spending variables including cost, condition or region and (2) analysis of patient characteristics and their association with high cost cases.

The prevalence of select clinical conditions comparing high cost patients to all other patients within the commercial insurance market and Medicare is included as Table 4.2 in the 2013 Cost Trend Report. High cost cases were identified as the top 5% of patients in the sample by total spending in a given year (see Table 4.1 below). In 2010, the high cost cases accounted for 42% of total spending, and 45% of total spending for Medicare.

Table 4.1: Spending concentration in Massachusetts
Claims-based expenditures (excluding pharmacy spending), dollars, 2010

	Medicare		Commercial	
	Expenditure threshold*	Percent of total expenditures	Expenditure threshold*	Percent of total expenditures
Top 1%	\$99,600	15.3%	\$48,900	22.4%
Top 5%	\$45,800	42.0%	\$16,500	45.0%
Top 10%	\$26,900	60.1%	\$9,600	58.6%
Top 20%	\$11,000	78.1%	\$4,900	73.3%
Top 50%	\$2,600	94.5%	\$1,600	91.8%

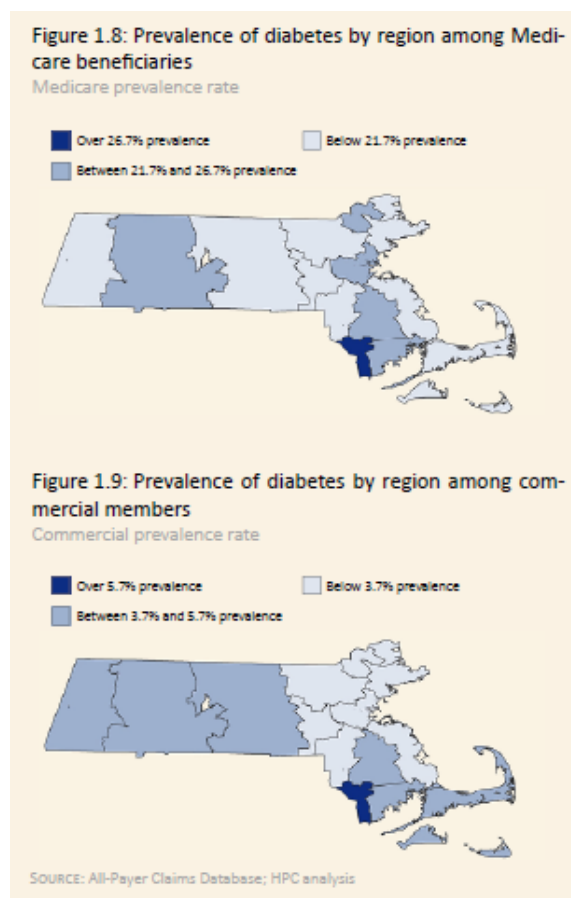
*Minimum expenditures for patient in that group.
SOURCE: All-Payer Claims Database; HPC analysis

For example, in 2010, there were 13 conditions that occurred at least four times more often among commercial high-cost patients than the rest of the commercial population, with the top conditions represented being high-cost pulmonary conditions (21 times more prevalent among high-cost patients) and infectious diseases (17 times more prevalent). The following are important chronic conditions that were highly prevalent, and just slightly more common among high cost patients: asthma (3 times more prevalent among high cost patients); diabetes (2.7 times more prevalent) and mood disorders (5.4 times more prevalent).

Massachusetts also uses data from the MA APCD to illustrate variance in prevalence of conditions and costs by geographic area. Figures 1.8 (below) and 1.9 show the variation in diabetes prevalence in 2011 for commercial and Medicare markets by geographic area. Such data can be used to identify areas for potential targeted population health interventions as well as for monitoring care for chronic

Massachusetts Case Summary

and behavioral health conditions.



Source: [Massachusetts 2013 Cost Trends Report](#)

4. Promoting Price Transparency

Price transparency refers to the degree to which health care cost information is readily available to consumers. With the Affordable Care Act's focus on increased affordability and accountability, both federal and state officials are looking to increased price transparency as a means of reducing health care costs. When coupled with information on care quality, consumers can use price information to make informed decisions about their care. For instance, consumers might choose to pay higher costs if it meant that they would receive care from higher quality providers. In contrast, price transparency reports might reveal that some higher cost providers administer low quality care, in which case the consumer would like opt not to pay the higher prices. Similarly, health care purchasers can use price information when evaluating their networks, or to investigate tiered pricing plans.

As consumers and employers take on a greater share of health care costs,^{17,18} states have begun efforts to increase price transparency from two perspectives: 1) As a way to provide consumers with the information they need to make informed health care decisions, and 2) To make health plan pricing information highly visible to inform and improve market functioning.

The APCD is an ideal data source for price transparency efforts because it allows the state to:

- Take responsibility for collecting and analyzing data from all health care payers, thereby increasing standardization and accountability across plans;
- Develop a single price transparency tool to publicly report the price information by type of service and by provider; and
- Establish itself as a central resource for consumers regardless of their insurance coverage. Even if an individual's coverage changes, consumers would still be able to access price and quality information at the same website.

Below are examples of the types of analytic price transparency questions that states have answered using their APCDs.

Analytic Questions Examples: Price Transparency

- From the consumer's perspective, how much will a knee replacement surgery cost at different facilities within a 50 mile radius from the consumer's home address? What are the expected out of pocket costs for this consumer?
- For providers within the consumer's network, what are average costs associated with common office visits and procedures (e.g., well-child visit, breast cancer screening), and how do these providers perform on corresponding measures of care quality?
- How much does it cost for an inpatient hospitalization or emergency department visit for an adverse event at various facilities within the state? How can the state ensure that this information of this nature is made available to all providers within the state?
- Do participants in our state-based initiative have lower health care costs than those who do not participate (or are not served by providers) in the initiative? Do these costs vary by age category? What is the return on investment for our state-based reform initiative?

In May 2013, the federal government made strides towards enhancing price transparency by posting prices billed to Medicare for the 100 most common inpatient and 30 most common outpatient services to its Medicare Provider Charge Data website.¹⁹ The data showed vast differences in hospital and provider charges to Medicare, even among hospitals within the same community. In a press release, Secretary Sebelius acknowledged that, "...Consumers don't know what a hospital is charging them or their insurance company for a given procedure, like a knee replacement, or how much of a price difference there is at different hospitals, even within the same city."²⁰

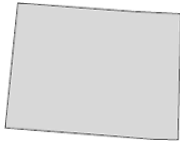
States with established APCDs have reported similar types of price variations within the state. For example, Colorado reported average commercial and Medicaid payments for its top twenty highest volume facilities using reimbursement amounts for six diagnostic-related groups. For hospitals included in the analysis, the highest paid hospital was receiving nearly four times the amount of the lowest paid hospital.²¹ In addition, the highest paid hospital was receiving at least a third more than the second highest paid hospital (\$60,051 compared to the next highest paid hospital at just under \$40,000).

States are undertaking a variety of strategies to enhance price transparency. Like Colorado (featured below), some states have created consumer-facing websites that allow consumers to access statewide information on health care resources and reports. Examples of the information provided on these types of websites includes average costs for certain procedures and conditions and average costs for certain geographic areas or payers.

Although the APCD is an accessible and low-cost data source for price transparency purposes, the following are key issues for states to consider when using the APCD to report price information:

- *Limited Cost Sharing Information* - Cost sharing refers to the way in which costs for health plans are shared between employers and employees. For example, employers typically pay a portion of the health plan premium, and the remaining portion of the premium is deducted from the employee's paychecks. Although most states collect at least basic information related to cost sharing (e.g., co-payments, co-insurance amounts, and deductible amounts for specific claims), the underlying information about the plan benefit design is not included in the APCD. For example, most states would be able to assess the amount a patient paid toward their deductible from the APCD, but would not know whether the patient still needed to contribute money to meet the total deductible amount. Most states report high level price transparency information, such as the total cost of care for a given procedure at a certain facility. Although the total cost of care usually includes amounts paid by both the insurer and the individual, such as co-payments and deductibles, it often does not represent the actual out of pocket amount that a consumer would pay for a particular service.
- *Plan Benefit Design* - Currently, benefit design information is generally not included in state-operated APCDs. That is, most APCDs do not include information on co-payments and deductibles, which are needed to provide consumers with information on the full costs for their care (e.g., for costs related to out-of-pocket and deductible payments).
- *Consumer Education and Engagement* - Price information generated from the APCD needs to be actionable. Often, reports generated at the state level provide aggregate or average prices that may be interesting to consumers, but not actionable without information on the specific cost to the consumer for care at a given provider, or without quality information that can help guide choices around pricing. For instance, consumers need to know whether they will compromise quality if they choose a lower cost provider. Lastly, consumer education is needed to help prevent unintended consequences such as consumers equating price with quality. The tools designed for consumer use should be based on consumer behavior research.²²
- *Incentives* – Although price and quality information will help consumers make more informed decisions about their health care, the industry must offer plan benefit designs that give patients the incentive to shop for health care services based on price.

Colorado Case Summary



Colorado All-Payer Claims Database

Managing organization: Center for Improving Value in Health Care (CIVHC)

Year data first collected: 2012

Data sources included:

- | | |
|---|---|
| <input checked="" type="checkbox"/> Commercial payers | <input type="checkbox"/> Self-funded/TPAs (planned) |
| <input type="checkbox"/> Medicare (planned) | <input checked="" type="checkbox"/> Medicaid |

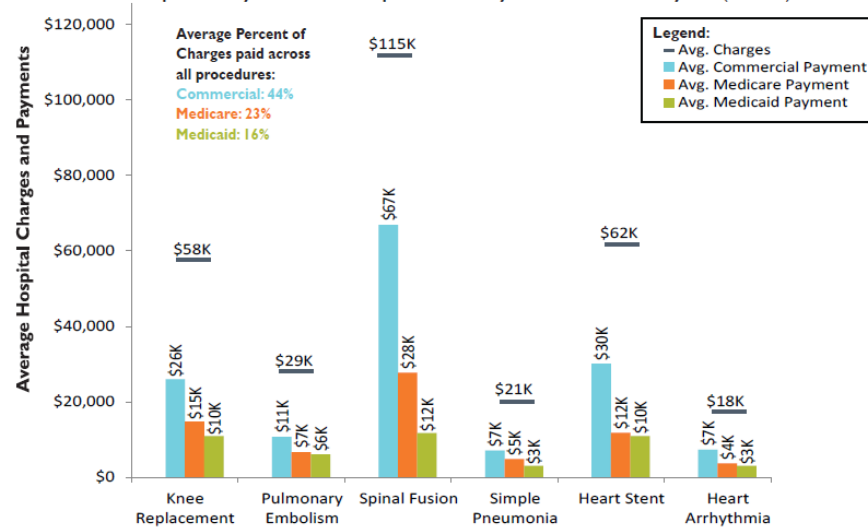
Colorado's All-Payer Claims Database is administered by the Center for Improving Value in Health Care (CIVHC), a not-for-profit organization tasked with contributing to an "efficient, high quality and transparent health care system" within Colorado. The APCD currently contains historic claims data from 2009 through 2012, which represents the lives of over 3 million Coloradans. The claims data comes from the 21 largest commercial payers in the state, including individual and large-group fully-insured lines of business, as well as Medicaid and Medicare Advantage plans. Colorado has plans to add data from both Medicare fee for service by late 2014 and self-insured companies to the APCD by 2015.

A main focus of Colorado's APCD efforts has been around price transparency. The APCD website (www.cohealthdata.org) currently offers many reports and graphics that provide details and highlight variation in cost and utilization rates by geography, age range and gender, and by type of procedure and medical condition. Consumers can view maps related to topics such as total billed cost of care and total billed cost of care compared to payment levels for select commercial carriers and Medicaid. From here, website visitors can view results at the county or three-digit zip code levels, restrict results by payer type, compare results across up to three counties, and view the results as an actual value or as a percent change from the previous year. For example, Colorado reported average hospital charges and payments by payer type for six procedures (see graphic below), which revealed differences in the average charges and payments made to hospitals between commercial and public payers. In addition to these reports, all of the underlying aggregated data is available for download in excel format to support additional analysis.

Colorado is preparing to launch improved and expanded consumer portal. This portal will contain comparative cost/price (based on medical total paid amounts) and quality information by hospital for births (both cesarean and vaginal), total knee and total hip replacements, and visits to the emergency room for mild or moderate severity levels. Patients will be able to review information for local hospitals based on zip code including the median total paid amount along with the likely range of payment, and quality indicators. The quality indicators provided will be drawn from published sources including the Colorado Hospital Report Card (AHRQ Patient Safety Measures), Health Facility Acquired Infection Rates (reported by the CO Department of Public Health and Environment), and selected measures from the Hospital Consumer Assessment of Healthcare Providers and Systems, more commonly known as HCAHPS. CIVHC is planning to gradually expand content available on the consumer portal by including additional service providers and procedures to include data for Ambulatory Surgery Centers, free standing imaging and endoscopy centers and, ultimately, primary care physician practice groups.

Colorado Case Summary

Colorado Hospital Payment Comparisons by Procedure/Payer (2011)



Source: CIVHC, [Colorado APCD Resources and Reports Webpage](#)

5. Increasing Care Quality for Population Health

In addition to price transparency, quality measurement and reporting is needed in order to transform the health care delivery system. Quality is important to state leaders, to clinical staff, to payers, and to consumers, and is an essential component of improving patient outcomes and population health. Both consumers and health care purchasers need to be able to compare prices alongside quality information in order to make informed health care decisions. Indeed, there is evidence that consumers associate higher prices with better care quality.²³ Unfortunately, there are few resources that allow consumers access to this type of information. APCDs are a unique data source that can be used for both price transparency and quality reporting purposes.

Analytic Questions Examples: Quality for Patient and Population Health

- Does diabetes care quality (cholesterol, blood sugar, and kidney disease screenings) vary by region within the state? Which regions are in the top 20% and which regions are in the bottom 20%?
- Does the quality of care that Medicaid patients receive vary by primary care practice setting (e.g., standalone physician practice, hospital-based clinic, federally qualified health center, etc.)? Have rates of well-child visits among children enrolled in Medicaid improved, and how do the state's rates compare to national well-child visit rates within this population?
- Do patients who receive care from a Patient-Centered Medical Home (PCMH) have better outcomes than those who do not receive care from a PCMH? Do these patients have higher breast and cervical cancer screening rates than those who do not receive care from a PCMH? Can the state lower health care costs while preserving quality (as measured by the National Committee for Quality Assurance's (NCQA's) Healthcare Effectiveness Data and Information Set (HEDIS) indicators)?

Quality in healthcare is a complex concept to define and measure; various data sources are used to examine quality from different perspectives: survey data, administrative records, electronic health records, and

program data may all be used to capture various aspects of quality. Claims data are another important data source already being used for quality measurement, but often involve only one payer. By combining most or all payers into a single database, claims data become a much more robust tool for this type of measurement. Although claims data cannot capture all aspects of quality (such as patient satisfaction or public health outcome indicators), they do provide an important perspective on the health care service quality.

Three “levels” of quality monitoring and reporting are most common across states: (1) physician group/practice/clinic, (2) hospital, and (3) health plan. This section first describes the advantages and disadvantages of using the state-operated APCD for quality monitoring and reporting, and then discusses APCD quality reporting issues specific to each of the three levels.

Major advantages of using the APCD for quality reporting include:

- *Reduced Data Collection Burden* - In its report to Congress regarding a National Quality Strategy, AHRQ recommended, “Our efforts must be driven by reliable data that the stakeholder community agrees encompasses the best and most relevant measures, *without creating an undue burden of collection*”²⁴ (italics added). One advantage of using an APCD is that claims data are already collected. This tool compiles them to facilitate analytics, but does not require an additional reporting burden on providers and facilities.
- *Standardized Data* - Because claims data are used for billing and payment purposes, claims data are readily available in electronic format and are somewhat standardized across payers. For instance, providers use standard electronic forms and billing codes when submitting claims to payers. These forms include information about the patient, provider, and dates of service, diagnosis codes and/or procedure codes, and total charges, among other items. Although it was developed by the Centers for Medicare and Medicaid Services, many providers bill using the [CMS-1500 form](#). Additionally, claims data are often further cleaned, quality checked, and standardized when they are collected for inclusion in the state-operated APCD. Compared to other facility-based data sources (such as electronic health records or medical record reviews) the APCD is often a low-cost and more easily accessible option for quality reporting.²⁵
- *Build upon Existing Efforts* - States can readily adapt many of the quality indicators that have already been developed by national organizations using claims data. The AHRQ has a set of Quality Indicators (QIs), the NCQA has the HEDIS measures, and National Quality Forum’s (NQF) has endorsed a set of quality measures that are grouped into 22 separate topic areas (e.g., asthma, patient safety, surgery). States could use the APCD to validate these quality reports, and to generate detailed state-level quality reports for and across providers within the state. States could also consider creating statewide benchmarks for existing quality measures, such as the AHRQ QIs.
- *Geographic Comparisons* - For quality monitoring and reporting, states can use the APCD to compare provider, hospital, and plan quality by sub-regions of the state. For example, Utah uses its APCD to investigate how physician clinics performed on five key quality measures using geographic areas within the state based on population size, political boundaries, and economic similarities, to identify high and low performers within the state (for more information, please visit the [Utah Department of Health’s website](#)).
- *Public vs. Private Comparisons* - Without an APCD, it is difficult to make comparisons across public and private payers. To secure public and private data without an APCD, states would need to make data requests to plans within the state, as well as to Medicare and Medicaid, and then would need to compile variables of interest into a usual and comparable format. Unfortunately, the time and cost involved with

such an effort usually prevents states from gathering these data, and from reporting on quality across payers. States with APCDs are in a unique position to evaluate whether there are differences in the quality of care delivered across payers.

- *Population Included* - Most state-operated APCDs represent a majority of state residents (see Table 2 for state APCD data sources). While this does not mean an APCD is without limitations or biases, it does have some advantages over methods that require patients to opt in or to actively participate in programs (e.g. surveys, medical home pilot programs) which are subject to selection bias, inaccurate self-reporting, non-response, and drop-outs. For example, a state interested in assessing care quality among diabetes patients could send a survey to a sample of diabetes patients. However, respondents may be more likely to respond to the survey if they had a particularly positive or negative experience with the healthcare system. Or, the patient might not accurately recall the specifics of the care provided (e.g., they might not be able to recall if they visited a primary care physician within the last six months). In contrast, the APCD captures data on all patients who sought covered services in the state, requiring no additional response from the patient or provider.
- *Easily Combined with Price Data* - As discussed above, it is essential for consumers and stakeholders to have both quality and price information in order to make informed health care decisions. The APCD is unique in that it includes both quality and cost data, key data elements that usually reside only with payers.

Though there are many benefits to using APCD for quality monitoring, there are also some disadvantages, including:

- *Limited Measure Types* - Unless they are linked to other data sources, such as electronic health records, claims data often include more process than outcome measures. For example, the APCD would provide information on whether a diabetic patient's hemoglobin A1c levels were measured during a visit within the past year (process measure). However, without a link to lab values, the APCD cannot provide the exact hemoglobin A1c level (outcome measure), which is important for determining how well the patient's diabetes is being managed (outcome measure). Indeed this is a limitation common to many established quality measures, which often primarily reflect the process of care delivered (e.g., the HEDIS measures). However, claims data do include some outcome-oriented measures such as hospital-acquired infections, falls, readmissions, length of stay, and mortality.
- *Provider Identification* - Many states struggle with issues related to provider identification. States must be able to accurately and reliably identify providers and attribute patients to them in order to report quality at the individual and physician group levels. Problems identifying providers stem from inconsistencies in provider group naming conventions, missing data, poor data quality, claims listing the billing provider (rather than the service provider), as well as business transactions such as mergers. As a solution, several states are discussing or are in the process of implementing master provider indexes, in which a unique identification number would be assigned to an individual provider, regardless of where the data originated.
- *Patient Attribution* - To assess provider quality, states must be able to use the APCD to appropriately assign patients to providers and/or facilities. There are a variety of data quality methodological approaches for patient attribution, all of which can produce considerably different results.²⁶ For example, there are methods that distribute patients to providers who provided the most services to the patient, allow patients to be attributed to multiple providers, and utilize historical claims data to determine which providers should receive attribution in the database.

- *Coding Accuracy and Completeness* - Although claims data quality are improving, concerns about coding accuracy and completeness remain. For example, the number of fields allocated for diagnosis and procedure codes can vary across providers. Some providers record only the acute condition that resulted in the patient's hospitalization, while others record the acute condition as well as the presence of any chronic conditions.
- *Time Lag* - Due to the time it takes to collect, clean, and analyze data (including working with payers to resolve issues), there is often a three to nine month lag time between when the data are delivered to the state and when they are ready for analysis. For quality reporting and improvement purposes, this lag time can be especially problematic, since providers need regular and timely feedback in order to make changes that will result in improvement. For faster turn-around times, electronic health records are often used for within-practice or system quality reporting. The disadvantage of electronic health records is that there is no universal electronic health record system, making comparisons across providers impossible.

As mentioned above, there are three main levels where quality reporting commonly takes place: provider, hospital, and health plan. Having considered the advantages and disadvantages of APCD use for quality reporting, state health planners should also be aware of the specific considerations for each level of reporting.

Oregon Case Summary



[Oregon All Payer All Claims Reporting Program](#)

Managing organization: [Oregon Health Authority Office of Health Analytics](#)

Year data first collected: 2011

Data sources included:

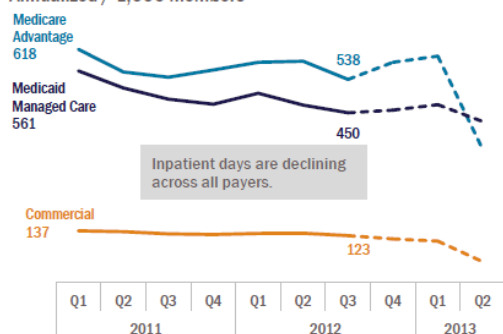
- | | |
|--|--|
| <input checked="" type="checkbox"/> Commercial payers* | <input checked="" type="checkbox"/> Self-funded/TPAs |
| <input checked="" type="checkbox"/> Medicare | <input checked="" type="checkbox"/> Medicaid |

The Oregon All Payer All Claims Database (APAC) is being used extensively for the purposes of statewide monitoring and reporting. These efforts were bolstered by [Governor John A. Kitzhaber's request](#) that the Oregon Health Policy Board (OHPB) make specific recommendations to ensure that the triple aims of lower costs, better care, and better health were met within the state. In response, the Oregon Health Authority has taken action to draw upon the APAC data for the state's [Quarterly Dashboard](#), a publically-available report that tracks the effects of health system reforms within the state. Oregon's Initial Quarterly Dashboard provides detailed information on health care costs, utilization, insurance coverage, access to care, and quality metrics (data around cost and utilization are derived from the APAC). Examples of cost and utilization metrics include total expenditures per patient per month, as well as visits and expenditures for hospital inpatient, outpatient, and emergency department settings. The state also reports on cost and utilization for the top 20 health care treatment episodes for commercial and Medicare Advantage patients.

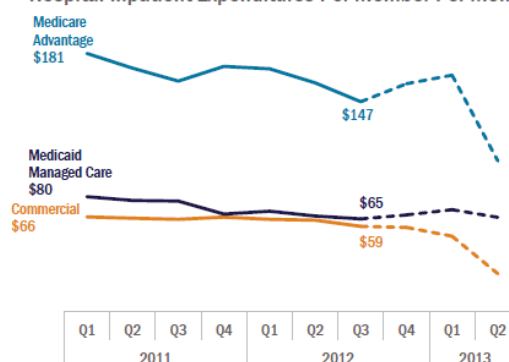
Below is an example of Oregon's graphic display of hospital inpatient days and expenditures by payer, taken from page 2 of the Oregon Health Authority's [Initial Quarterly Dashboard](#).

Oregon Case Summary

Hospital Inpatient Days Annualized / 1,000 members



Hospital Inpatient Expenditures Per Member Per Month



* APAC lacks data from the Kaiser Health Plan of the Northwest which covers [approximately 472,500 patients as of 2014](#).

Provider Group Quality

Traditionally, physician group quality reports have been less common due to issues around using claims data to identify providers, patient attribution, and insufficient sample sizes.^{27,28} Despite these issues, overall claims data quality is improving, and both the federal and state governments are moving forward with comprehensive provider quality reporting efforts. For instance, CMS maintains a voluntary reporting system, the Physician Quality Reporting System, which provides physicians with the opportunity to earn incentive payments for Medicare Part B professional services. Another example is the State Innovation Model (SIM) testing states, which are creating both physician and physician practice quality measures for attribution of incentive payments (read more about the SIMs on page 27). For example, Maine's Health Management Coalition recently distributed its first round of Primary Care Practice Reports, which are designed to provide physician practices with information on variations in both cost and quality compared to state benchmarks;²⁹ see below for a case summary on Maine's APCD efforts in this area.

Provider quality reports are potential tools that patients can use to make informed decisions about their care. However, these reports are not as useful as possible at the consumer level unless they are accompanied with cost information. That is, patients need both quality and cost information in order to assess whether they are willing to pay less knowing that the quality of care might be lower than the higher cost providers. In addition to consumers being interested in quality reports, both plans and employers can use cost and quality reports to encourage their enrollees to select lower cost and higher quality providers.

APCDs offer a unique advantage for provider-level quality reporting, since they have the potential to increase sample size when data are aggregated across payers. Furthermore, the APCD may also provide a more accurate overall "profile" of the care provided, since the entire patient panel (public and private payer) would be represented, though for specific analyses comparing service by payer type, the option to report separately is still available.

Maine Case Summary



Maine All-Payer Claims Database (APCD)
Maine Health Management Coalition Foundation Practice Reports
Websites: <https://mhdo.maine.gov/claims.htm>, www.mhmc.org
Managing organizations: Maine Health Data Organization and
Maine Health Management Coalition Foundation
Year data first collected: 2003
Data sources include:
☒ Commercial payers ☒ Self-funded/TPAs

The [Maine Health Data Organization](http://www.mhdo.maine.gov) (MHDO) is a state-run agency that has been collecting claims data on residents since 2003. MHDO's goal is to create and maintain a useful, objective, reliable, and comprehensive health information database to improve the health of Maine residents. The [Maine Health Management Coalition Foundation](http://www.mhmc.org) (MHMC-F) is a charitable organization whose mission is to bring the people who get care, pay for care, and provide care together in order to measure and improve the quality of health care services in Maine.

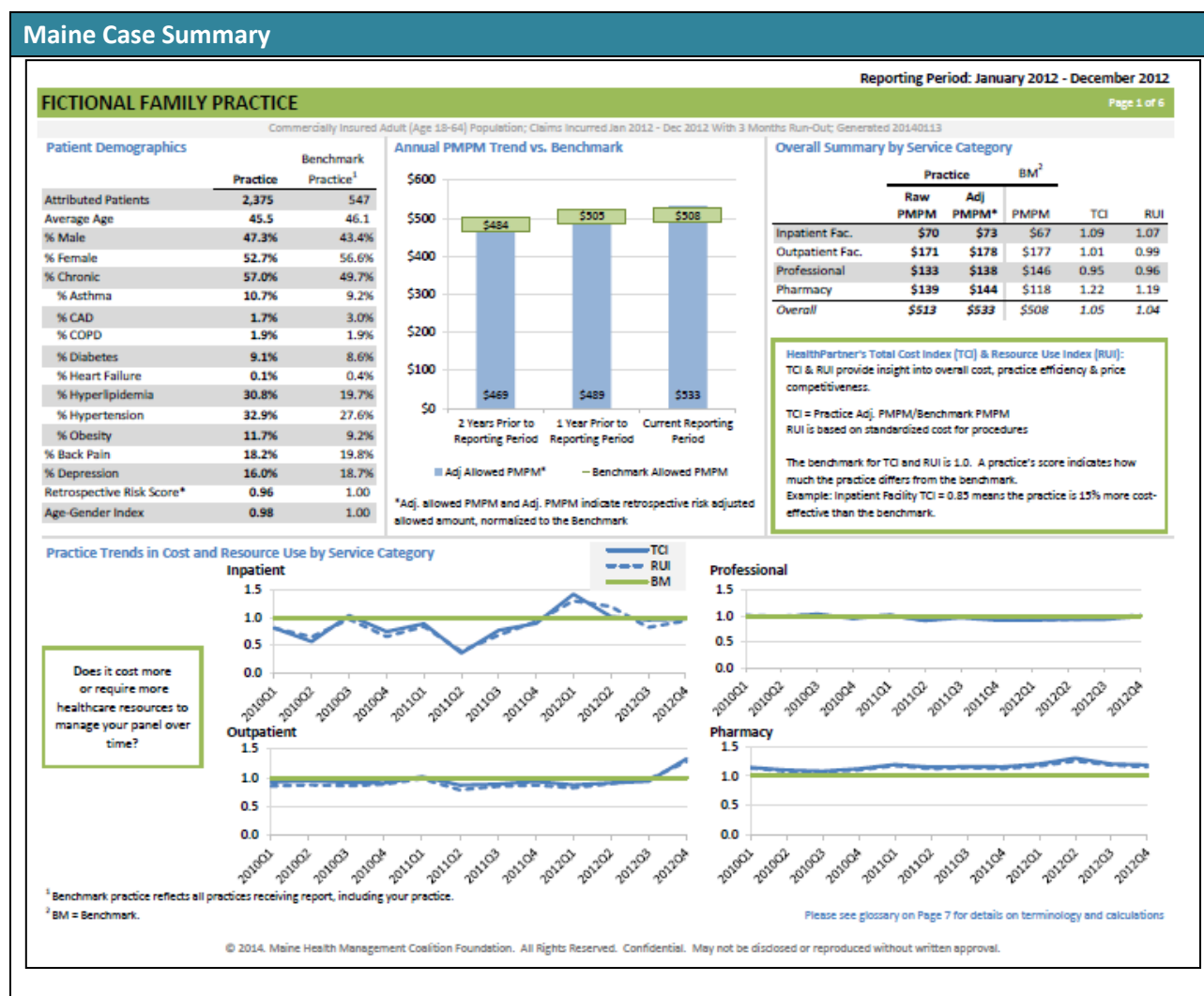
Maine's claims data are made accessible to researchers, policymakers, and the public through an APCD. The APCD includes data from commercial insurance carriers, third party administrators, pharmacy benefit managers, dental benefit administrators, MaineCare (Medicaid), and Medicare. The APCD's ability to provide protected, patient-level claims data allows for users to develop enhanced analytic and statewide reporting capabilities.

In an effort to support practice-level quality improvement, MHMC-F designed, developed, and distributed Primary Care Practice Reports (see example below) using raw claims data from the APCD submitted by commercial payers. These reports are distributed to primary care practices statewide, with the goal of demonstrating practice pattern variation in cost and quality compared to state benchmarks. MHMC-F's reports are released biannually, and were first released to primary care medical home practices in May 2013. As part of the State Innovation Model (SIM) initiative, statewide practice reports were distributed to practices and systems in January 2014.

MHMC-F's Primary Care Practice Reports display practice-level information based on commercial medical and pharmacy claims data for all patients attributed to a given primary care practice. The report is based on all of the attributed patient's claims data, regardless of where care was received. Measures summarize cost and resource utilization at the practice level, and provide detailed breakdowns across inpatient, outpatient, professional, and pharmacy claims. Where possible, National Quality Forum endorsed measures are reported (e.g., cholesterol management for patients with cardiovascular conditions, comprehensive diabetes care for diabetics, appropriate preventive care for adults, and pediatric/well-care events for children).

In addition to the commercial claims-based Primary Care Practice Reports, MHMC-F will distribute Medicare and Medicaid claims-based reports using patient-identifiable data sourced directly from these public payers. MHMC-F staff provides extensive trainings on these reports and offers ongoing support at the practice, system, and physician hospital organization level. For additional information, please visit MHMC-F's [website](http://www.mhmc.org).

Maine Case Summary



Hospital Quality

Many of the federal health care reform efforts have been focused at the hospital level. These include initiatives on quality improvement, as well as payment reform efforts that simultaneously promote quality and efficiency (e.g., value-based purchasing, accountable care organizations). For example, the CMS-sponsored Partnership for Patients Campaign devoted \$218 million to 3,700+ hospitals nationwide in an effort to reduce preventable hospital-acquired conditions.³⁰ Similarly, CMS' payment reform efforts such as the Hospital Value-Based Purchasing Program gives acute care hospitals incentive payments for the quality of care provided to Medicare patients.

States are working to support federal hospital quality efforts, while also undertaking their own efforts to design and test quality strategies at the hospital level. For example, states are aware of the impact that the Medicare Hospital Readmissions Reduction Program penalties for avoidable readmissions has on hospitals within their state. In the first year, the program resulted in \$280 million in penalties, which is an average of \$125,000 per hospital.³¹ Interestingly, the penalties were not equally distributed among the states; Arkansas, the District of Columbia, Illinois, Kentucky, Massachusetts, Mississippi, New Jersey, New York, incurred the heaviest penalties.³²

Although patients often visit multiple providers over the course of a year, each provider or facility typically has access only to its own patient visit records. This means that providers and hospitals do not have a convenient way to ascertain whether their patients are receiving treatment outside of their practice or facility, which makes quality monitoring challenging due to the nature of some standard quality indicators. For example, hospital readmissions have long been viewed as an important indicator of care quality,³³ but though some hospitals may have an understanding of how many of their patients are readmitted to their facility within 30 days, they may not be able to get information on whether their patients were readmitted to a different facility within that same timeframe. The APCD could be used to determine whether readmitted patients visited a primary care provider between their first hospital admission and their potentially avoidable readmission, and where those primary care providers were located. This could also reveal geographic patterns related to readmissions (e.g., patients in rural areas may not have options for primary care follow-up appointments nearby). Thus, the APCD has the potential to provide hospitals with information that could help them (and their communities) take deliberate steps to reduce avoidable readmissions and increase performance on quality measures.

As more hospitals join Accountable Care Organizations (ACOs), assessing and monitoring quality and population health at the community level will become increasingly important. See below for an example of how New Hampshire used its APCD to investigate inpatient and emergency department adverse drug events.

New Hampshire Case Summary



[New Hampshire Comprehensive Health Care Information System](#)

Managing organization: New Hampshire Insurance Department and New Hampshire Department of Health and Human Services

Year data first collected: 2005

Data sources included:

- | | |
|--|--|
| <input checked="" type="checkbox"/> Commercial payers | <input checked="" type="checkbox"/> Self-funded/TPAs (planned) |
| <input checked="" type="checkbox"/> Medicare (planned) | <input checked="" type="checkbox"/> Medicaid |

New Hampshire Comprehensive's Health Care Information System (CHIS) was one of the first state-operated APCDs established. Since the APCD legislation was passed in 2003, CHIS has been used for a variety of purposes such as geographic analyses, hospital quality and pricing reports, and assessments of disease prevalence, utilizations, and health care costs for various patient populations (e.g., Medicaid enrollees and patients with chronic conditions).

In the area of hospital quality, CHIS data were used for an analysis of hospital-based adverse drug events, an important patient safety and quality indicator. For this analysis, New Hampshire collaborated with Maine, since the two states share a population that crosses borders for employment and health care services. For New Hampshire, the data included inpatient discharge and emergency department data, representing approximately 16,300 events across 26 hospitals, and \$251.5 million in hospital charges. New Hampshire was able to track discrete adverse drug events as defined by AHRQ, including breaking down data by hospital and payer. Along with quality findings, the final report also included cost information, such as the average paid amount for an inpatient discharge with an adverse drug event (\$13,332 in 2007).

New Hampshire's analysis indicates that APCD data can be used for purposes of tracking clinical and safety improvements that occur in hospitals. For more information on about New Hampshire's reports, please visit the [CHIS website](#). For a copy of the adverse drug events report, please visit www.APCDshowcase.org or [click here](#) for a direct link to the report.

Plan Quality

For commercial plans, both states and vendors have traditionally produced the majority of the quality reports. For example, organizations such as the National Committee for Quality Assurance (NCQA) have created for health plan quality reporting. NCQA's HEDIS tool is designed to measure performance on certain domains of care, such as high blood pressure control and breast cancer screening. It is used by more than 90% of the nation's health plans,³⁴ making it possible to compare results across plans. Similar to the Five Star Quality Rating System for Medicare Advantage Plans, many of the HEDIS measures can be populated with claims data. For states with well-established APCDs and advanced analytics, APCD data could potentially be linked with clinical data (e.g., blood glucose levels) from electronic health records or other sources.

States have an interest in health plan quality reporting as a way to help ensure that residents receive high quality care, that employers within the state have the information they need to select plans, and to validate reports produced by other entities (such as vendors). Many states produce "report card" style quality reports for health plans, which usually exclude information on public payers such as Medicare and Medicaid. For example, California's Office of the Patient Advocate (OPA) produces quality report cards for HMOs and PPOs by health plan.³⁵ Both HMOs and PPOs are given scores for clinical quality (e.g., cancer screenings, heart care) and patient experience (e.g., getting care easily and customer service). Consumers can compare plans to other plans within California, as well against the national averages and ninetieth percentiles. Although public plan information is not included in these reports, the California OPA provides links to quality reports from other organizations such as Medicaid Managed Care and Medicare Physician Groups.

Moving forward, both the federal government and states will work more closely to monitor health exchange plan quality. CMS is currently developing a quality rating system for plans that operate within the health exchanges. This system is expected to include measures related to the plan's accreditation status, clinical quality (e.g., preventive care, chronic disease management), and the patient experience.

Maryland Case Summary



[Maryland Medical Care Data Base \(MCDB\)](#)

Managing organization: Maryland Health Care Commission (MHCC)

Year data first collected: 1995 (historic claims from 1993)*

Data sources included:

- | | |
|---|--|
| <input checked="" type="checkbox"/> Commercial payers | <input checked="" type="checkbox"/> Self-funded/TPAs |
| <input checked="" type="checkbox"/> Medicare | <input checked="" type="checkbox"/> Medicaid |

Maryland's APCD, the Maryland Medical Care Database (MCDB), is being used to generate reports on utilization, cost and quality of health care services in Maryland. These analyses support legislative and research studies and decision support systems for Maryland State partners, demonstration programs, and health care reform efforts. The MCDB includes claims data on commercial insurers, prescription drug plans, Medicare, and Medicaid. Although the database was originally intended to support cost containment strategies, Maryland recently proposed enhancements that will allow the MCDB to assist in tracking and monitoring innovative care and payment initiatives.

The enhanced MCDB will serve as a primary data source for monitoring Maryland's various care transformation initiatives. For example, the MCDB is used to support the state's Multi-Payer Patient-Center Medical Home Program, and Maryland will test a new Center for Medicare and Medicaid Innovation (CMMI) model that will be based on Medicare per capital total cost growth, as opposed to the state's current all-payer rate setting system, which is based on Medicare payment per inpatient

Maryland Case Summary

admission. As part of these efforts, Maryland will be responsible for meeting cost reduction and quality targets, and the enhanced MCDB will be used to track and report on progress in these areas.

In 2014, the Maryland Health Care Commission changed its regulations to require that additional plans submit data to the MCDB (e.g., third party administrators, pharmacy benefit managers, and Maryland Health Benefit Exchange plans). In addition, the threshold for plan reporting was changed to be based on the number of covered lives, rather than the previous \$1 million or more revenue requirement. As of 2015, new submissions on plan benefit design and non-fee-for-service claims will be required, resulting in a richer dataset for conducting total cost of care analyses. The Maryland Health Care Commission is collaborating with the Maryland Insurance Administration to explore the feasibility of using the MCDB to support rate review activities for the 2014-2016 rate review cycles. Lastly, Maryland anticipates that it will soon apply to become a Medicare Certified Qualified Entity, thus allowing the state to use a wider range of Medicare data (Parts A, B, and D) for reporting purposes.

* The Maryland Medical Care Data Base (MCDB) was originally created in 1993. In 2007, the MCDB was reauthorized under House Bill 800 (HB 800), Maryland Health Care Commission, Program Evaluation, (2007 Laws of Maryland, Chapter 627) to establish the MCDB as it exists today. The new legislation required payers to submit data on insurance eligibility, facility services, and insurance product design. For more information about the MCDB background and timeline, please visit Maryland's Department of Health and Mental Hygiene's [website](#).

6. Evaluating Payment Reform Initiatives

Section 3021 of the ACA established the Center for Medicare and Medicaid Innovation (CMMI), which was charged with the task of testing innovative delivery system and payment models to reduce costs while maintaining or enhancing care quality.³⁶ Delivery system reforms occurring at the state level include development of ACOs and patient-centered medical homes (PCMHs). Both ACOs and PCMHs aim to improve care coordination across providers and health care settings. According to the [National Academy for State Health Policy](#), 43 states have adopted policies and programs to support PCMHs for Medicaid/CHIP beneficiaries (as of April 2014).

While delivery system reforms help transform the provision of care, payment reforms focus efforts on changing the ways in which health care is paid for. For example, some states are considering moving away from the traditional fee-for-service model in which providers are reimbursed for the number of services they provide (i.e., a volume-based model), to a value-based model in which providers are reimbursed in accordance with the quality and efficiency of care provided. Many states have begun to look to bundled and/or global payments as a first step in payment reform (e.g., Colorado, Massachusetts, and New Hampshire). Both bundled and total cost of care payments are used frequently in ACO and PCMH models. In Table 2, we list common terms that are used to describe payment reform and related activities.³⁷

Table 2. Key Payment Reform Terms³⁷

Accountable Care Organizations (ACOs): Typically defined as a provider-led organizations/entities comprised of different types of collaborating providers charged with managing care across multiple care settings for defined populations and directly contracting with payers (versus relying on health plans). The ACO structure often marries care delivery reforms with new provider payment strategies.

Table 2. Key Payment Reform Terms³⁷

Episode-based Payments: One payment to providers for multiple services associated with an episode of care. Episodes are typically associated with acute services or well-defined conditions or health care events such as upper respiratory infection or knee replacement.

Global Payments or Budgeting: One fixed payment for the total cost of care per member (global payment) or for the total cost of care for a population (global budget) over a defined time period. Also referred to as capitation, from a provider perspective this may be viewed as a more “extreme” form of shared savings/risk.

Patient-Centered Medical Homes (PCMHs) and Health Homes: Care delivery models designed to provide enrollees with greater access to primary care services, case management, and care coordination across a team of providers. Provider groups are often paid enhanced fees for these activities in addition to regular fee-for-service payments.

Pay-for-Performance (P4P): Enhanced payments and other financial incentives to providers linked to quality of care measures and reporting.

Shared Savings/Risk: Approach that allows providers to retain a portion of savings generated from better managing care for a given population and set of services. Savings are calculated by assessing provider spending performance vis-à-vis established spending targets. Downside risk may also be incorporated by requiring providers to share in losses (i.e., make payments back to the state) if spending is higher than established targets.

Targeted Payment Adjustment Policies: Denial of claims for preventable events/conditions and unnecessary services or reduced payments based on health care inefficiencies identified through claims analysis.

There are multiple efforts underway to evaluate the effectiveness of payment reform. For example, CMMI conducts evaluations of all new service and delivery models that it funds.³⁶ The evaluations, which are required by the statute, include an analysis of the quality of care and changes in spending under the model. Key questions that these evaluations seek to answer include: the impacts of reform on health care costs and utilization; the impacts of reform on health care quality; to what extent reforms have impacted processes vs. patient outcomes; and the differences in impacts of reforms across population subgroups. APCDs are excellent data sources for these care reform evaluations at the state level. Some of the key advantages of using the APCD for these purposes (similar to advantages listed in the previous sections, but with specific applicability for payment reform evaluation) include:

- *Standardized Data* - Claims data, particularly fee-for-service claims data, have long been used for the evaluation of health care initiatives. APCDs have the added advantage of providing standardized data elements across payers. As a result, it is not necessary to reconcile differences in formats, coding, and lag times across payers, as would be necessary for evaluations of multi-payer reforms in states without APCDs.
- *Geographic Comparisons* - The APCD is ideal for detailed geographic comparisons of health care reform efforts within the state because the data contain detailed geographic information for both patients and providers. Compared to survey data, such as the Medical Expenditure Panel Survey which includes information on health care costs, the APCD often includes data at the zip code level, which can easily be used to analyze and map data at the county or sub-county geographic areas.

- *Impact Assessments* - In addition to tracking overall information about costs and quality for sub-state geographic areas, the information about the location of providers and patients in APCDs makes it possible to track the impacts of specific interventions on utilization, costs, and outcomes. This is especially important for evaluating initiatives, such as demonstrations, that are being tested with smaller patient or provider groups before being rolled out on a statewide basis.
- *State Medicaid Policies* - Compared to the federal government, state entities are in an ideal position to appropriately collect and process on the Medicaid population. Since there are various differences in eligibility and coding structures across states, evaluations at the federal level can be time-consuming and difficult to carry out.

It is important to keep in mind that the APCD is one of many data sources that could be used for the evaluation of statewide health care payment reform efforts. Comprehensive evaluations, such as those being conducted at the national level, often include a mixed-methods design which include both quantitative and qualitative approaches to data collection and analysis. Ideally, the state-level APCD would be used in combination with other data sources in the evaluation of payment reform. Although state-level APCDs represent a promising avenue for this type of evaluation, as mentioned previously, they are not without their limitations, which can include the following:

- *Clinical Data* - APCDs capture information on expenditures, diagnoses, and procedures, but do not include the clinical data or outcomes (such as blood pressure readings or cholesterol levels) that is often of greatest interest in a comprehensive evaluation. Several states are investigating ways to link the APCD data with clinical data sources.
- *Time Lag* - Due to the time it takes to collect data (including working with payers to resolve issues), clean data, and analyze data, there is often a three to nine month lag time between when the data are delivered to the state and when they are ready for analysis.
- *Non-Claim Reimbursements* - Typically, non-claim based reimbursements such as pay-for performance incentive payments or pharmacy benefit management rebates, are not included in the APCD. This makes certain types of analyses, such as total cost of care analyses, incomplete because payments that “offset” costs are not taken into account.
- *Populations Excluded* - Although most state-level APCDs are unique in that they include more covered lives within the state than other databases, they lack data on certain types of people, including the uninsured, people who are residents of one state but who work in different state, and veterans (people who receive their care at Veterans Affairs Medical Centers).
- *Plan Benefits* - Currently, most state-operated APCDs do not include plan benefit design information. Data related to premiums, deductibles, and co-pays, for example, are needed to adequately answer evaluation questions related to access, cost, and quality. Some states are taking steps to include plan benefit information from state health exchanges (e.g., Oregon is working to include metal tier level data in its APCD).

Despite the limitations, states are planning to use, or are currently using, the advantageous aspects of their APCDs to evaluate health payment reform efforts. An example from Vermont is highlighted below.

Vermont Case Summary

Vermont Case Summary



[Vermont Health Care Uniform Reporting and Evaluation System](#)

Managing organization: Green Mountain Care Board

Year data first collected: 2009

Data sources included:

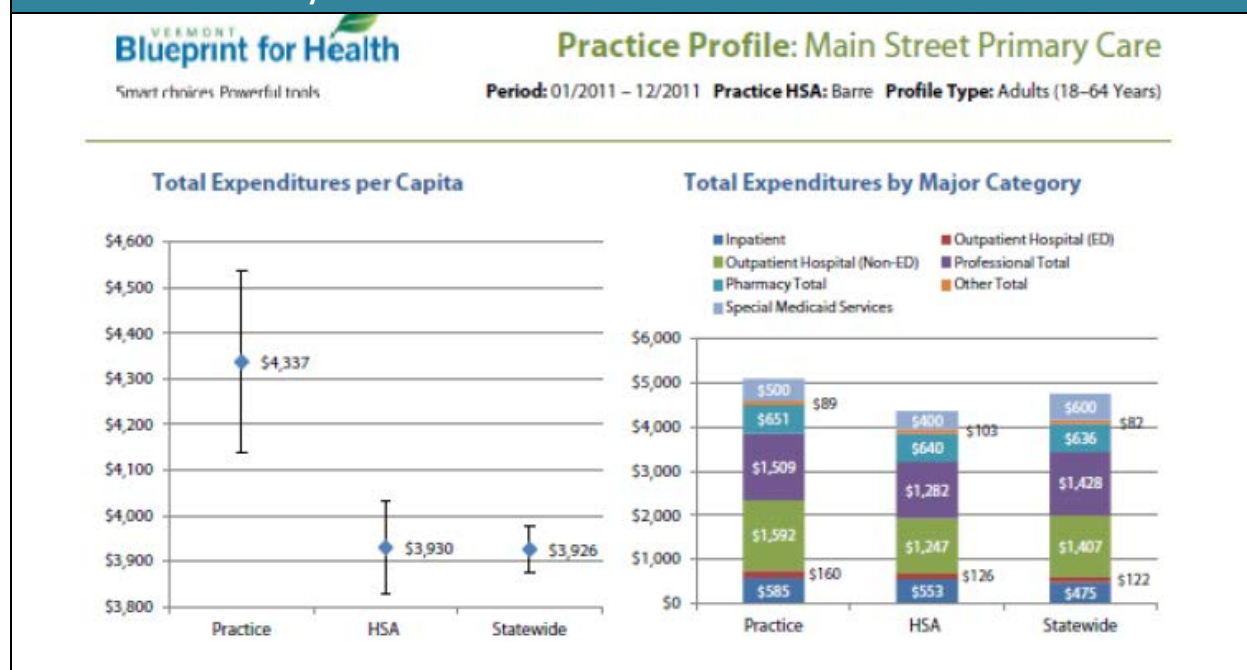
- ☒ Commercial payers (Major Medical, Medicare Advantage and Part D)
- ☒ CMS for Medicare
- ☒ Medicaid
- ☒ Self-funded/TPAs

Vermont's APCD, the Vermont Health Care Uniform Reporting and Evaluation System (VHCURES), serves as a primary data source for the state and particularly the Green Mountain Care Board (GMCB), with three main responsibilities: innovation in the health care system; regulation; and evaluation of the overall performance of the health care system. VHCURES, in combination with other health data sources, is being used to evaluate utilization, cost, and quality. Currently, the data are being used by GMCB to enhance the state health expenditure analysis and forecasting tool with more detail on utilization and attribution of services to providers; decompose trends in health care spending and identify cost drivers; evaluate payment reforms; and support special studies addressing population- and health market-based analyses.

The capability of the VHCURES to provide data on utilization, cost, and quality is vital for Vermont's evaluation of its ambitious *Blueprint for Health* initiative, which is focused on implementing a new health services model within the state. As part of this work, Vermont is working to coordinate care and link patients to a broad range of services through a foundation of medical homes and community health teams. VHCURES is the primary data source to evaluate the programs impact on utilization, expenditures, and HEDIS measures. For example, data were used to identify patients participating in the program and to define the comparison group, as well as for assessing patient utilization, cost, and quality metrics. The program is also using VHCURES to produce comparative reporting in the form of practice profiles and health service area profiles, which are described in the Vermont Blueprint for Health Annual Report (see link below). With the support of facilitators and learning forums, these profiles are used to guide ongoing improvement processes in practices and communities. Additional information on Vermont's initiative can be found in the 2013 Vermont Blueprint for Health Annual Report, available [here](#).

Vermont has plans to improve the quality of the VHCURES database, making its data even more valuable for evaluation purposes. Examples of proposed changes include improved member identifiers to reduce duplication of records across payers; enhanced the potential for future integration with other datasets (e.g., electronic health records and vital statistics); and the improvement of the master provider index in terms of timeliness, accuracy, and geographic detail on practice locations. Additional details about the proposed changes are available [here](#).

Vermont Case Summary



Affordable Care Act (ACA) State Innovation Models (SIMs)

The ACA includes several pilot projects designed to slow the growth of health care costs, including CMMI's SIM program.³⁸ The SIM initiative provides financial support to states in order to develop and test state-based models for multi-payer payment and health care delivery system transformation. The projects are intended to be broad-based across the states, and focus on people enrolled in Medicare, Medicaid, and CHIP. The state-based models have the potential to reduce costs and improve quality for beneficiaries.

The first round of the SIM initiative provided nearly \$300 million in funding for three different types of awards; Table 3 displays the award types and amounts for the SIM states. The Design State Awards funded 16 states to develop State Health Care Innovation Plans; Pre-Testing State Awards funded three states to enhance their proposed State Health Care Innovation Plans; and six Model Testing States were awarded grants to test state-specific health care delivery models that have the potential to lower costs while maintaining or improving care quality.³⁸ CMMI has recently released the Round 2 funding announcement, with up to \$730 million available for up to 15 new Design states, and up to 12 new Test States to accelerate health transformation.

The Round 1 Model Testing states are developing, refining, or expanding value-based payment models for care, with models that include innovative episode-based payments, performance incentives for high-quality care, shared savings or shared risk models, and/or increased alignment between payers. Their innovative health care delivery system models rely on timely data in order to identify high cost patients for targeted cost-containment and care management strategies. Additionally, the states will use data to monitor the total cost of care and health care spending over time, as well as to administer their shared savings or shared risk payment models.

As part of its SIM activities, Maine is working to form multi-payer ACOs that will receive performance-based payments for quality care. Part of ACO formation will include aligning quality measures, data, and analytics across participating providers. A key component of success for the project is Maine's work to enhance its health care infrastructure, particularly the data analytic structure that is required for multi-payer claims analysis, public

reporting and secure information sharing. The APCD will be incredibly useful for the state, as it serves as a repository for much of the data required to assess costs and services provided by providers.

Minnesota's SIM model is working to increase types of care offered by ACOs, including long-term social services and behavioral health services. The model is also working to create linkages among ACOs, Medicare, Medicaid and commercial insurers, and align payments to provide better care coordination. Much of Minnesota's work relies on expanding its health information technology infrastructure, which is funded as part of its SIM grant. The state is relying on its APCD to function as the data source for evaluation of its SIM model. Legislation was recently signed that expands the use of the state APCD to be used to evaluate the SIM testing grant ([Minn. Stat. § 62U.04 \(2012\)](#)), specifically for analysis of health care cost, quality and utilization baseline and trend information for targeted populations and communities.

Table 3. Centers for Medicare and Medicaid Innovation State Innovation Model Awards

CMMI SIM Round 1 Awards					
Model Testing Awards (6)		Model Design Awards (16)			
Arkansas	\$42M	California*	\$2.7M	New Hampshire*	\$1.6M
Maine*	\$33M	Connecticut*	\$2.9M	Ohio	\$3M
Massachusetts*	\$44M	Delaware	\$2.5M	Pennsylvania	\$1.6M
Minnesota*	\$45M	Hawaii	\$938K	Rhode Island*	\$1.6M
Oregon*	\$45M	Idaho	\$3M	Tennessee*	\$756K
Vermont*	\$45M	Illinois	\$2.1M	Texas	\$2.9M
Model Pre-Testing Awards (3)		Iowa	\$1.4M	Utah*	\$942K
Colorado*	\$2M	Maryland*	\$2.4M		
New York*	\$1M	Michigan	\$1.7M		
Washington*	\$1M				

Source: <http://innovation.cms.gov/initiatives/State-Innovations/>

* State has an APCD



7. Creating Data Linkages

Because the underlying purpose of claims is for billing, they are not always ideal or complete data sources for health care reform reporting and evaluation. Several limitations of claims data are described in the previous sections of this document. However, there is significant potential to enhance the utility of APCDs through linkage to other data sources. For example, linking APCDs to information from electronic health records would provide information about detailed outcomes (such as patient vitals, diagnostic test results, etc.) that are not available from claims alone. This type of linkage, which typically involves accessing patient identifiers, entails unique challenges and costs, such as dealing with privacy concerns, appropriately matching records, and securing and cleaning data from multiple sources.³⁹ However, studies have demonstrated that there are effective methods for linking patient information through algorithms, even in the absence of reliable patient identifiers.^{40–}

⁴²

There are also other types of data that is not patient-specific that have considerable potential to enhance the usefulness of APCDs for health reform reporting and evaluation. For example, Vermont uses provider identification numbers to attribute patients to patient centered medical homes (PCMHs) in the evaluation of the state's primary care initiative, the [Blueprint for Health](#).⁴³ Specifically, Vermont used a roster of providers' practice affiliations to attribute claims to practices. Another example of linking an APCD with other data is Massachusetts' [Cost Trends Report](#).⁴⁴ Massachusetts' APCD does not include patient income, so researchers assigned median household incomes based on patient zip code. This allowed the state to gain a better understanding of high-cost patients' demographics. As states become more advanced in their ability to use APCDs for health care reform monitoring and evaluation, information on plan benefit design, provider and hospital characteristics, and quality

measures (e.g., patient satisfaction, plan quality ratings) will be important data elements to combine with the APCD.

In addition to existing examples of how states have leveraged data linkages to enhance the utility of APCDS, it can be helpful to think about additional opportunities to take advantage of linking APCDs to other data sources to answer pressing questions related to health reform. We outline three examples below:

- *Clinical Data* - One of the commonly mentioned limitations of the APCD is that it lacks clinical and treatment data (e.g. lab results, prescription drug use). APCDs provide information on care received across providers and settings, and linking the datasets to those with outcomes data would provide a more robust view of care provided to residents within the state. For instance, among patients taking certain medications, states could investigate a variety of patient demographic and health care quality and cost measures (e.g., hospitalizations, average length of stay, average costs).
- *Churn Analyses* – Churn, the movement of people between different types of plans (Medicaid, exchanges, employer-sponsored, uninsured), is a challenge for state governments. On an annual basis, an estimated 7 million individuals are likely to churn between Medicaid and health exchange plans, and approximately 20 million individuals will move between Medicaid and being ineligible for health exchange subsidies.⁴⁵ In addition to being a challenge for the individual or family who may go through periods of un-insurance or who may lack consistency in providers, churn can also result in increased administrative costs for plans and government entities. Since a variety of factors, such as changes to income, family composition, and employment status affect churn, many states are interested gaining a better understanding of the extent of churn in order to reduce the cost and impacts of churning. While some of this work can be done using the APCD alone, states need additional descriptive information in order to effectively answer questions about minimizing the effects of churn within the state. If the APCD were linked to datasets that included additional demographic information, such as the American Community Survey (ACS) or the Survey of Income and Program Participation (SIPP), the state could assess characteristics of people who churned (e.g., education level, income level, annual health care costs, disease severity, comorbidities, etc.) in order to effectively target intervention efforts.
- *State Mental Health Agency Data* - Due to privacy concerns and difficulties inherent in data linkage projects, mental health data have not been directly linked to APCDs. State mental health agencies are responsible for services for more than six million people on an annual basis, all of whom are tracked through information technology systems.⁴⁶ According to the Substance Abuse and Mental Health Services Administration, 12 states have established data warehouses to combine mental health data with Medicaid data. However, in order to reduce the duplication of efforts to link mental health claims data with other health care data, and to provide a more robust picture of mental health disease prevalence, service utilization, and overall health care costs, states could consider incorporating mental health data into the APCD.

8. Barriers

While states have expressed a desire for a more collaborative approach to creating and maintaining APCDS, many are still struggling to firmly establish their APCDs. This includes efforts around securing adequate funding, gaining stakeholder support, implementing health information technology systems, developing vendor contracts, designing analytics reports, and providing solid evidence for sustainability. Some commonly-identified barriers to successful APCD development and maintenance include:

- *Funding* - To date, most states with funded APCDs have received funding through private sources such as health plans or local foundations (e.g., CA, CO, ME, VA, WA), federal dollars (e.g., CT, KS, MN, NY), and

state support (e.g., KS, MN, NY, VT), with many states relying on a combination of funding from these sources. Some states (e.g., CO, ME) also rely on funding from data sales. However, federal, state, and foundation funding are not guaranteed funding strategies. Data sales typically come from either the sale of APCD analytic files or from reports. These types of sales are often expected to partially offset the costs of maintaining APCD.⁴⁷

However, Colorado has plans for its APCD to become fully self-sustainable after its three-year implementation is completed, otherwise its APCD efforts will be discontinued and the data will be returned to payers or destroyed.⁴⁸

- *Securing and Maintaining Stakeholder Support* - Strong engagement and support from stakeholders such as state agencies, health plans, policymakers, employers, and consumer advocacy groups is needed to ensure that appropriate and future resources are devoted to APCD infrastructure, reporting, and staffing plans. While states such as Colorado regularly engage an [Advisory Committee](#) that has statewide representation from multiple stakeholder groups, it can be difficult to gain support and maintain ongoing engagement.
- *Health Information Technology Implementation and Vendor Contracts* - There are significant costs associated with implementing health information technology infrastructure, as well as costs for developing and securing vendor contracts. According to the APCD Council,⁴⁷ one of the main APCD cost drivers reported by states is the number of data sources and platforms that the data aggregation entity must interact with and process (i.e., costs related to health information technology). Some states (e.g. MA) carry out most of the work related to data aggregation, cleaning, analytics, and reporting “in house,” while other states have chosen to contract with vendors for a portion of the work. For example, the state may choose to contract with a data aggregation vendor, but may choose to conduct its own analytics and reporting activities. States that decide to contract with vendors must devote time and resources to the procurement, as well as to vendor management, while states conducting work “in house” must devote staff and resources to that effort. In either case, states must carefully plan for the future uses of the APCD, while also keeping cost and staffing constraints in mind.
- *Analytic Capacity* - Even for states that have contracts with analytic vendors, some internal analytic capacity is required in order to effectively manage vendors and to quickly respond to *ad hoc* information or reporting requests. Recent health care reform implementation efforts have strained states’ analytic capacity, which compromises the utility of the APCD and hence its perceived value to the state (especially consider the costs associated with APCD maintenance).

Given the urgencies of health care reform environment, as well as the time and resources devoted to establishing and maintaining an APCD, states have had little time to work collaboratively to overcome the barriers mentioned above. Tasks such as developing common measures, sharing information on analytic plans, providing feedback on best practices and issues encountered could be bolstered by state collaboration.

9. Conclusions

State-based APCDs provide a unique data source for states to actively engage in efforts to meet the triple aim of improved care, improved population health, and reduced per capita costs of health care (Berwick, Nolan, and Whittington, 2008). This paper documents the potential of APCDs to answer key analytic questions related to the cost and quality of care and provides specific examples of states that have used data from their APCDs to:

- Monitor and evaluate health care spending and cost trends over time;
- Identify high cost spending by condition and geographic area and evaluate drivers of spending;

- Produce price transparency reports that identify average price for specific procedures, health conditions, geographic areas and/or payers;
- Develop and monitor quality using measures that rely on claims data, including hospital readmissions; hospital admissions for preventable conditions; peri-partum infection rates; hospital-acquired infections, etc.; and
- Develop and monitor payment reform initiatives, especially those involving multi-payer models.

State APCDs have multiple audiences, which include consumers, providers, health plans, employers, various state agencies and policymakers. To work toward the ambitious goals of the triple aim, states must rely on collaborative strategies to engage multiple stakeholders to achieve results but also, to assure continued support to develop the required IT infrastructure as well as analytic capacity. Setting priorities will be a critical activity in early APCD development planning, keeping in mind the visibility of the analytic work but also the needs of the key funders and sponsors of the organization.

The development of an APCD requires a significant amount of resources (including time) to effectively leverage the vast data resource in each state. The examples presented in this report represent promising practices from experienced states, and demonstrate the potential of state-based APCDs to clarify health care spending patterns and to inform policy interventions to improve efficiency of care, quality of services, and population health.

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Appendix I: State-Level APCD Implementation Timeline

State	Year Legislation Passed	First Year Claims Collected
California ^{a, b}	2012	2013
Colorado	2010	2012
Connecticut	2012	N/A
Kansas	2007	2010
Maine	2001	2003
Maryland	2007	1995 ^c
Massachusetts	2008	2009
Minnesota	2008	2009
New Hampshire	2003	2005
New York	2012	N/A
Oregon	2009	2011
Rhode Island	2008	2014
Tennessee	2010	2010
Utah	2007	2011
Vermont	2008	2009
Virginia	2012	2013
Washington ^b	2004	2004
West Virginia	2011	N/A
Wisconsin ^b	2005	2006

N/A indicates that claims data have not been collected as of this writing.

a - The California Healthcare Performance Information System (CHPI) builds on previous efforts of the California Physician Performance Initiative. Once built, it will consist of data from plans and Medicare, representing over 12 million lives.

b - Voluntary effort through collaboratives of purchasers, providers, insurers, government agencies, and other stakeholders.

c - The Maryland Medical Care Data Base (MCDB) was originally created in 1993. In 2007, the MCDB was reauthorized under House Bill 800 (HB 800), Maryland Health Care Commission, Program Evaluation, (2007 Laws of Maryland, Chapter 627) to establish the MCDB as it exists today. The new legislation required payers to submit data on insurance eligibility, facility services, and insurance product design. For more information about the MCDB background and timeline, please visit Maryland's Department of Health and Mental Hygiene's [website](#).

Appendix II: State All-Payer Claims Database (APCD) Snapshots*

California

[California Healthcare Performance Information System](#)



Managing organization: CA Healthcare Performance Information System

Year data first collected: **2013**

Data sources included:

- ☒ Commercial payers
 ☒ Self-funded/TPAs
☒ Medicare (Advantage)
 ☐ Medicaid (planned)

Colorado

[Colorado All-Payer Claims Database](#)



Managing organization: Center for Improving Value in Health Care

Year data first collected: **2012**

Data sources included:

- ☒ Commercial payers
 ☐ Self-funded/TPAs (planned)
☐ Medicare (planned)
 ☒ Medicaid

Connecticut



TBD ([APCD established](#), not yet live)

Managing organization: Access Health Connecticut

Year data first collected: N/A

Data sources included:

- ☐ Commercial payers (planned)
 ☐ Self-funded/TPAs (planned)
☐ Medicare (planned)
 ☐ Medicaid (planned)

Kansas

[Data Analytic Interface](#)



Managing organization: Division of Health Care Finance

Data collection vendor: (none listed)

Year data first collected: **2010**

Data sources included:

- ☒ Commercial payers
 ☐ Self-funded/TPAs

Maine

[Maine Health Care Claims Database](#)



Managing organization: Maine Health Data Organization

Year data first collected: **2003**

Data sources included:

- ☒ Commercial payers
 ☒ Self-funded/TPAs
☒ Medicare
 ☒ Medicaid

Maryland

[Maryland Health Care Commission Medical Care Data Base](#)



Managing organization: Department of Health and Mental Hygiene

Year data first collected: **1995****

Data sources included:

- ☒ Commercial payers
 ☒ Self-funded/TPAs
☒ Medicare
 ☒ Medicaid

Massachusetts

Minnesota



[Massachusetts All-Payer Claims Database](#)

Managing organization: Center for Health Information and Analysis

Data collection vendor: (none listed)

Year data first collected: **2009**

Data sources included:

☒ Commercial payers ☒ Self-funded/TPAs



[Minnesota Health Care Claims Reporting System](#)

Managing organization: Department of Health

Year data first collected: **2009**

Data sources included:

☒ Commercial payers ☒ Self-funded/TPAs
☒ Medicare (Advantage) ☒ Medicaid

New Hampshire



[New Hampshire Comprehensive Health Care Information System](#)

Managing organization: Insurance Department, DHHS

Year data first collected: **2005**

Data sources included:

☒ Commercial payers ☒ Self-funded/TPAs (planned)
☒ Medicare (planned) ☒ Medicaid

New York



TBD ([APCD system established](#), not yet live)

Managing organization: Department of Health

Year data first collected: **N/A**

Data sources included:

☐ Commercial payers (planned) ☐ Self-funded/TPAs (planned)
☐ Medicare (planned) ☐ Medicaid (planned)

Oregon



[Oregon All Payer All Claims Database](#)

Managing organization: Oregon Health Authority

Year data first collected: **2011**

Data sources included:

☒ Commercial payers ☒ Self-funded/TPAs
☒ Medicare ☒ Medicaid

Rhode Island



[Rhode Island All Payer Claims Database](#)

Managing organizations: Department of Health, Executive Office of Health and Human Services, Office of the Health Insurance Commissioner,

Year data first collected: **2014**

Data sources included:

☐ Commercial payers (planned) ☐ Self-funded/TPAs (planned)
☐ Medicare (planned) ☐ Medicaid (planned)

Tennessee



[Tennessee All Payer Claims Database](#)

Managing organization: Department of Health

Year data first collected: **2010**

Data sources included:

☒ Commercial payers ☒ Self-funded/TPAs
☐ Medicare (planned) ☒ Medicaid

Utah



[Utah All-Payer Claims Database](#)

Managing organization: Department of Health

Year data first collected: **2011**

Data sources included:

☒ Commercial payers ☒ Self-funded/TPAs
☐ Medicare (planned) ☒ Medicaid

Vermont



[Vermont Healthcare Claims Uniform Reporting and Evaluation System](#)

Managing organization: Vermont Green Mountain Care Board

Year data first collected: **2009**

Data sources included:

- | | |
|---|--|
| <input checked="" type="checkbox"/> Commercial payers | <input checked="" type="checkbox"/> Self-funded/TPAs |
| <input checked="" type="checkbox"/> Medicare | <input checked="" type="checkbox"/> Medicaid |

Virginia



[Virginia All Payer Claims Database](#)

Managing organization: Department of Health

Year data first collected: **2013**

Data sources included:

- | | |
|--|---|
| <input type="checkbox"/> Commercial payers (planned) | <input type="checkbox"/> Self-funded/TPAs (planned) |
| <input type="checkbox"/> Medicare (planned) | <input type="checkbox"/> Medicaid (planned) |

Washington



[Washington All Payer Claims Database](#)

Managing organization: Washington Health Alliance

Year data first collected: **2004**

Data sources included:

- | | |
|---|--|
| <input checked="" type="checkbox"/> Commercial payers | <input checked="" type="checkbox"/> Self-funded/TPAs |
| <input type="checkbox"/> Medicare | <input checked="" type="checkbox"/> Medicaid |

West Virginia



[West Virginia Health Care Authority Database](#)

Managing organization: West Virginia Health Care Authority

Year data first collected: **N/A**

Data sources included:

- | | |
|--|---|
| <input type="checkbox"/> Commercial payers | <input type="checkbox"/> Self-funded/TPAs |
| <input type="checkbox"/> Medicare | <input type="checkbox"/> Medicaid |

Wisconsin



[Wisconsin Health Information Organization Health Analytics Exchange](#)

Managing organization: Wisconsin Health Information Organization

Year data first collected: **2006**

Data sources included:

- | | |
|---|--|
| <input checked="" type="checkbox"/> Commercial payers | <input checked="" type="checkbox"/> Self-funded/TPAs |
| <input type="checkbox"/> Medicare | <input checked="" type="checkbox"/> Medicaid |

*Sources: [ACPD Council](#) and state-specific websites listed.

** The Maryland Medical Care Data Base (MCDB) was originally created in 1993. In 2007, the MCDB was reauthorized under House Bill 800 (HB 800), Maryland Health Care Commission, Program Evaluation, (2007 Laws of Maryland, Chapter 627) to establish the MCDB as it exists today. The new legislation required payers to submit data on insurance eligibility, facility services, and insurance product design. For more information about the MCDB background and timeline, please visit Maryland's Department of Health and Mental Hygiene's [website](#).