Profiles of State All-Payer Claims Databases

Below we present profiles of eight state all-payer claims databases (APCDs) discussed in the two-part series State All-Payer Claims Databases: Tools for Improving Health Care Value.

The states were selected based on a literature scan and expert advice. We were looking for diverse approaches and contexts for implementing an APCD, as well as examples of the challenges to and the value of doing so. The eight geographically diverse APCDs, which have been in operation for four to 17 years, were also selected to highlight relatively advanced uses of data.

To gather information, the author conducted semistructured interviews with APCD leaders in each state and with selected legislators, employers, Medicaid officials, and other stakeholders. Each profile highlights the APCD's formation and purpose, governance, funding, operation and data, recent reports and data products, lessons learned, and current and future plans. Findings were validated and refined based on a comparison with other published literature and through review by interviewees.

Study states represent a variety of market and policy contexts. Collectively, they tend to perform better than average on national rankings of health system performance, small-group insurance market competition, and publicly available information, as well as on an assessment of health care price transparency laws. All states but Wisconsin have expanded Medicaid eligibility as allowed under the Affordable Care Act (ACA). These factors suggest that most of the states are amenable to adopting health reforms and policies to promote health system improvement, which may have influenced APCD creation.

State Ranking or Grade	Ark.	Colo.	Maine	Minn.	N.H.	Utah	Va.	Wisc.	Average	Median
Health System Performance (1)	47	9	12	3	10	11	29	12	17	12
Insurance Market Competition (2)	26	12	17	14	32	36	5	1	18	16
Ensuring Data Is Available for Use (3)	17	1	4	10	37	11	14	35	16	13
Health Care Price Transparency (4)	D	B	A	C	A	D	C	F	C	C
Expanded Medicaid Under ACA (5)	Y	Y	Y	Y	Y	Y	Y	N	Y	Y

Sources: (1) The Commonwealth Fund, Scorecard on State Health System Performance (2019) (1=highest performing state). (2) Kaiser Family Foundation, State Health Facts: Small Group Insurance Market Competition, Rank on Herfindahl-Hirschman Index (1=most competitive market). (3) Center for Data Innovation, The Best States for Data Innovation (2017). The rank is a composite of 9 indicators (1=best at making data available for public use). (4) Catalyst for Payment Reform and the Source on Healthcare Price and Competition, "2020 Report Card on State Price Transparency Laws," 2020. (5) The Commonwealth Fund, Medicaid Expansion Status, 2019.

The Commonwealth Fund

State APCD Profile: Arkansas

Formation and Purpose: The Arkansas APCD was established under the umbrella of the Arkansas Healthcare Transparency Initiative Act of 2015, which aims to empower Arkansans to drive, deliver, and seek out value in the health care system. The act authorizes the Arkansas Insurance Department (AID) to adopt rules for the administration and oversight of the APCD. The APCD's statutory objectives are as follows: Support efforts to improve health care quality and develop cost-containment strategies; provide information about health care spending and utilization; inform decision-making by consumers, health insurance carriers, policymakers, and providers; support research; and serve as a public good.

Governance: The Arkansas Center for Health Improvement (ACHI), an independent health policy organization administratively housed within the University of Arkansas for Medical Sciences, administers the APCD under an interagency agreement between ACHI and AID. A 13-member Healthcare Transparency Initiative Board, made up of state agency officials and members representing the health care industry, researchers, and consumers, oversees the work of the initiative, including the APCD. Through reviews conducted by a data oversight committee and a scientific advisory committee, the board makes recommendations on data uses and releases for approval by the insurance commissioner. ACHI operates under a memorandum of understanding with the university, which specifies that the Center's policy and data-related work are independent of and not subject to review by the university.

Funding: AID's Health Insurance Rate Review Division was awarded a $3.1 million grant from the federal Center for Consumer Information and Insurance Oversight to establish the Arkansas APCD in support of health insurance rate review and transparency in health care pricing. The Arkansas General Assembly established a $3.2 million annual appropriation for the Healthcare Transparency Initiative overseen by AID. APCD operating costs of $1.8 million for data collection and access are funded jointly by AID and Arkansas Medicaid and through sales of APCD data. ACHI charges fees to cover expenses associated with requests for custom datasets derived from the APCD, and the fees are remitted to a fund overseen by AID.

Operation and Data: ACHI had more than a decade of experience working with health care claims and other data on behalf of the state when it was awarded the APCD contract. The center relies on in-house information technology services to manage the database. The APCD includes medical, pharmacy, and dental claims. Data are collected from commercial and Medicare Advantage plans, some self-insured employer plans, and the Medicaid and Medicare programs. Data are submitted in an anonymized format with hashed identifiers so that records can be linked over time, across insurance products, and as people change insurers.

RECENT REPORTS FROM THE ARKANSAS APCD

Costs attributable to adult tobacco use: $795 million for Medicaid and $542 million for private insurance.

Surprise billing for air ambulance services by insurance carrier (in response to a legislative request).

Identification of low-value services for the state and public school employee benefit plans.

Preventing rural hospital closures. APCD data were used to analyze the out-migration of services from rural counties to help show the opportunity for offering services locally.

Health care spending for jailed population with serious mental illness. Estimate of savings for treatment versus incarceration to show the cost-effectiveness of integrated services at local crisis stabilization units.

Trends in the average cost of prescription drugs. There was a 68 percent increase in the cost of the EpiPen, from $269 in 2013 to $453 in 2015, for commercially insured patients, as an example.

Geographic variations in opioid drug use and treated prevalence of chronic diseases by county.

Lessons Learned: "An APCD is a tough sell," says Joseph Thompson, ACHI's president and CEO. ACHI's initial effort to establish a voluntary APCD did not elicit support from payers. Therefore, state policy leaders advocated with the legislature to authorize mandatory claims submission, which garnered unanimous backing under the rubric of the Transparency Initiative. They consider the Transparency Initiative to have achieved its principal goal by relying on external users of Arkansas APCD data, such as MyMedicalShopper.com, which displays median prices paid to providers by commercial insurers for approximately 200 procedures.

State officials credit the APCD with helping policymakers understand care patterns and make decisions to improve health system performance. The APCD is the only centralized source of claims data from commercial carriers serving Medicaid under a private option waiver to the Affordable Care Act. To quantify the opportunity for improving care and reducing costs in Medicaid, an analysis of APCD data found that 15 percent of beneficiaries with mental illness, developmental disabilities, and long-term care use collectively accounted for $1.6 billion in costs representing 25 percent of total annual spending on Medicaid in Arkansas. AID used the assessment to establish capital reserve requirements for entities serving high-needs populations.

Officials note that state funding of the APCD and other data sources used in the Transparency Initiative helps ensure affordable access to data so that researchers can generate new knowledge about the health system and evaluate programs for improvement. Growing interest in using the APCD creates a conundrum, however, since many requesters lack the ability to work with raw data while state resources are insufficient to adequately assist novice users.

Future Plans: ACHI and the Department of Health, which operates the state's health information exchange (HIE), have set a joint goal to create an integration strategy for the APCD and the HIE within three to five years. Clinical data from the HIE would enrich claims data, while paid amounts from claims will be essential to support value-based contracting, says Thompson. Realizing this vision would require a policy change to collect identifiable claims data.

State APCD Profile: Colorado

Formation and Purpose: The Colorado APCD had its genesis in recommendations issued in 2008 by a bipartisan Blue Ribbon Commission that called for a series of health care reforms. In 2010, the General Assembly enacted legislation (HB 10-1330) to establish an APCD with the intent of "facilitating the reporting of health care and health quality data that results in transparent and public reporting of safety, quality, cost, and efficiency information; and analysis of health care spending and utilization patterns for purposes that improve the population's health, improve the care experience, and control costs."

Governance: The statute invested the Colorado Department of Health Care Policy and Financing (HCPF), the state's Medicaid agency, with authority to promulgate rules governing data submission and oversight of the APCD. HCPF contracts with the nonprofit Center for Improving Value in Health Care (CIVHC) to administer the APCD. CIVHC is governed by a multi-stakeholder board on which representatives of state agencies serve in an exofficio capacity. HCPF's executive director appoints members to an APCD Advisory Committee, which makes recommendations to CIVHC on database administration and public reporting. A separate Data Release Review Committee develops protocols and reviews requests for APCD reports and data to ensure that they comply with regulations governing data privacy.

Funding: The legislature did not appropriate initial funding to create or operate the APCD. In the absence of state funding, private foundations provided grants to support APCD planning, development, and enhancements. CIVHC also receives revenue from fees charged for custom reports, datasets, and analytic services, including contracts with state agencies and subcontracts with research organizations participating in federal grant programs. In 2019, the General Assembly appropriated funding for APCD core operating expenses and additional analytic services for state agencies to support the governor's health care affordability agenda. In addition, HCPF recently obtained approval to receive federal Medicaid matching funds to support APCD operating costs associated with Medicaid data intake and management.

Operation and Data: CIVHC contracts with the Human Services Research Institute and NORC at the University of Chicago for data collection, management, and analytic services. The APCD includes medical, pharmacy, and dental claims. Data are collected from commercial and Medicare Advantage plans, some self-insured employer plans, and the Medicaid and Medicare programs. Medicare claims data are obtained under a state agency agreement for use in analyses and reports. CIVHC also has received Medicare Qualified Entity certification to expand allowable uses of Medicare data. HCPF recently expanded the APCD's data collection authority to include plan-level data on alternative payment models and prescription drug rebates.

Lessons Learned: CIVHC's public-private governance structure grew out of an assumption that private foundations would fund infrastructure and stakeholders would pay for information. However, grant funding was time limited, and licensing revenue proved inadequate to sustain the data intake, management, and analytic capabilities needed to meet the growing needs of the state and stakeholders. Private startup funding allowed CIVHC to prove the value of the APCD to the state so that the governor and legislature eventually supported direct state funding. A public-private partnership helps to engage stakeholders in supporting the APCD as a data resource for public benefit, yet it also requires shared control and leadership.

With additional state funding, CIVHC has intensified its oversight of data quality and beefed up its analytic capabilities. "There is a very limited group of individuals and researchers that can conduct analytics on claims data themselves," says Ana English, the CEO. "So, we've had to build our analytic skills and the tools to analyze the data. And the more that we're working with the data and analyzing it, the more we identify where we have gaps within the data." She says these gaps require new business rules, documentation, or submission correction from the payers.

Current and Future Plans: CIVHC is working to geocode the APCD to allow for easier linkages with non-claims data — such as census, education, employment, and criminal justice system data — to understand the intersection of health and socioeconomic conditions. The organization is also planning to expand its ability to link the APCD to additional sources of state data, such as vital statistics and registry data. CIVHC is working with state agencies and other stakeholders to use the APCD to answer questions related to the COVID-19 pandemic, such as the percentage of people at high-risk of serious illness and the potential impact of temporary cessation of elective services, which can also help officials prepare for future outbreaks.

RECENT REPORTS FROM THE COLORADO APCD

Shop for Care: Consumers can search for average prices paid and quality of care at specific facilities for common procedures and imaging tests (the website receives 20,000 visits annually).

Cost of Care: Interactive reports and maps showing spending per person by year, age group, gender, and type of payer statewide and for geographic regions of the state.

Low-Value Care: Reports volume and spending for 13 low-value services across Medicare, Medicaid, and commercial health insurance claims statewide and for regions of the state.

Reference-Based Pricing: Shows what commercial insurers pay hospitals for inpatient and outpatient services as a percent of Medicare payment, plus patient experience and overall quality ratings.

Use of Freestanding Emergency Departments: Patients are more likely to use freestanding than hospital-based EDs for nonurgent care, which costs at least $400 less at urgent care centers than in hospital EDs.

Opioid Prescribing: Nearly 80 percent of patients who received a prescription for Subsys, an opioid prescription specific for cancer patients, did not have a cancer diagnosis.

State APCD Profile: Maine

Formation and Purpose: The Maine Health Data Organization (MHDO) was established in 1995 by statute (22 MRS Chapter 1683), to "create and maintain a useful, objective, reliable, and comprehensive health information database that is used to improve the health of Maine citizens, and to issue reports promoting public transparency of health care quality, outcomes, and costs." The legislature created MHDO to take over the collection and analysis of hospital encounter data after the state disbanded its hospital rate-setting commission. In 2001, the legislature established the Maine Health Data Processing Center (MHDPC) as a public-private partnership between MHDO and the Maine Health Information Center (now Onpoint Health Data), which had developed a voluntary multipayer claims database for a coalition of Maine employers. MHDPC built on that project to develop the Maine APCD, which became operational in 2003. MHDO assumed exclusive authority for the APCD in 2009, when the MHDPC was dissolved.

Governance: The MHDO is an independent executive agency (not part of the cabinet or other executive branch agencies) with a 21-member board of directors appointed by the governor. The board is made up of consumers, employers, payers, providers, the Maine Department of Health and Human Services, and a nonvoting representative of the Department of Professional and Financial Regulation. Its duties include promulgating regulations and procedures for data collection, distribution, analysis, and protection. MHDO may impose civil fines and initiate proceedings in Superior Court to enforce its rules. The legislature designated the MHDO data release rule as one that is subject to legislative review and approval. MHDO's executive director also serves as the executive director of the Maine Quality Forum, a state agency responsible for monitoring and improving the quality of health care in the state.

Funding: Onpoint helped fund the initial development of Maine's APCD. MHDO's current annual budget is approximately $2 million, funded by data user fees and annual assessments from hospitals, nonhospital providers, and payers. The formula, which is based on net patient revenue, premiums written, or a flat dollar amount, generates between $1.2 million and $1.5 million annually. The legislature oversees MHDO's expenditures through the state's annual budget.

Operation and Data Collected: MHDO contracts with the Human Services Research Institute in partnership with NORC for APCD data warehousing and analytics. The APCD includes medical, pharmacy, and dental claims. Data are collected from commercial and Medicare Advantage plans, some self-insured employer plans, and the Medicaid and Medicare programs. MHDO recently transformed its processes, policies, and technology to ensure responsiveness to the needs of data users and submitters. The agency collaborates with the Maine Quality Forum to promote health care cost and quality transparency through the CompareMaine website.

Lessons Learned: "Maine has had a long history of recognizing the importance of using data to inform decision-making in policy, and there has been collaborative recognition of that across the public sector and the private sectors," says Karynlee Harrington, MHDO's executive director. She acknowledges that price transparency can be unpopular with both providers and payers. To allay those concerns, MHDO's multi-stakeholder board was very involved in decision-making around how to implement the legislatively mandated CompareMaine website. In addition, MHDO releases all updates to CompareMaine to the providers and payers for their review and feedback prior to releasing the updates to the public.

Being responsive to requests for data and information from stakeholders such as legislators helps ensure the relevance of the APCD. "When a legislator calls up and says, 'I have this question,' we've got to be able to respond quickly," Harrington says. "I think we have to say, 'We hear you, and this is what we can do in a short period of time, which gets close to what you're asking for.'" Because of such responsiveness, she reports that legislators are increasingly relying on the APCD to answer policy questions, which builds support for its sustainability and value. Over the long run, Harrington hopes that MHDO will access analytic tools that will turn raw data into actionable information in an even more timely way.

Current and Future Plans: Data from the Maine APCD have been informing state policy discussions around prescription drug costs for the last two years. Recent legislation authorizes MHDO to gather information related to the pricing of drugs along the supply chain from manufacturers to wholesalers, pharmacy benefit managers, and insurance companies. Policy leaders hope that these data will shed light on how the costs of prescription drug development, advertising, and profits affect pricing for the consumer.

RECENT REPORTS FROM THE MAINE APCD

Healthcare Procedure Cost Drivers: The 25 most frequently provided inpatient and outpatient procedures based on total cost.

MHDO Physician Office Utilization Dashboard: The 15 most frequently provided services and procedures in private physician offices.

Prescription Drug Costs and Utilization: The 25 costliest drugs; the 25 most frequently prescribed drugs; and the 25 drugs with the highest year-over-year cost increases by payer type.

Annual Report on Primary Care Spending (Maine Quality Forum): Spending on primary care as a proportion of total health care spending ranged from 4.75 percent to 6.8 percent by payer using a narrow definition and from 7.1 percent to 10.5 percent by payer using a broad definition.

The **CompareMaine website** reports the average cost for over 200 health care procedures at 155 facilities and clinics by the top five commercial payers in the state. Payments shown on the website represent 45 percent of total payments for commercially insured procedures in the APCD. The website also reports on several quality measures, including patient survey ratings, serious complications, health care associated infections, falls with injury, pressure ulcers, and all-cause readmissions.

State APCD Profile: Minnesota

Formation and Purpose: The Minnesota APCD (also known as the Health Care Claims Reporting System) was created by statute in 2008 as an essential component of a bipartisan health care reform package to enhance the transparency and understanding of health care value in Minnesota. The APCD was intended to provide data analyses relevant to health care reform, including a Provider Peer Grouping (PPG) initiative to compare providers on quality and costs of care. The PPG project was suspended by the legislature shortly before it became operational.

In 2014, the legislature repurposed the APCD as a research and analytic tool for specified projects, including evaluating the state's health care homes program; studying hospital readmission rates and trends; analyzing variations in health care costs, quality, utilization, and illness burden based on geographical areas or populations; assessing the feasibility of conducting state-based risk adjustment in the individual and small group health insurance markets; and studying trends in health care spending for specific chronic conditions and risk factors.

Governance: The APCD is administered by the Health Economics Program within the Minnesota Department of Health (MDH) under legislative oversight. In 2014, for example, the legislature directed MDH to convene an advisory workgroup to examine questions about expanded uses of the APCD. Based on the workgroup's report, the legislature directed the MDH to develop de-identified public use files describing health care utilization and costs at various levels of aggregation. These have been available at no cost since 2016.

Funding: The APCD is funded as part of health care reform activities stemming from the 2008 legislation, including both technical operations and policy analyses. At various times funding has been available from federal grants or initiatives, such as the State Innovation Model program. In 2014, the federal Center for Consumer Information and Insurance Oversight awarded the state $3.1 million, which was used in part to enhance the APCD for insurance rate review, improve data quality, develop new data collection standards, and evaluate the need for new data elements.

Operation and Data: The state contracts with Onpoint Health Data to perform data collection, processing, quality assurance, and warehousing under the oversight of MDH. From time to time, the MDH contracts with research firms to conduct analyses of APCD data. The APCD includes medical and pharmacy claims data for commercial and Medicare Advantage plans, some self-insured employer plans, and Medicaid and Medicare programs. The state gives special attention to concerns about data privacy: direct identifiers (e.g., name, date of birth, account numbers) are hashed prior to submission in an encrypted format; the data collected do not include addresses or social security numbers.

Lessons Learned: "An important area of MDH's efforts associated with the APCD concerns studying and documenting data quality," says Stefan Gildemeister, Ph.D., director of the health economics program at MDH. He notes two reasons for this focus. "First, a complete understanding of data quality is key to continuously improving data over time, and this is paired with the development of new logic checks and data intake procedures. Second, when making public use files available for independent research in the community, it is essential that researchers have a full understanding of data quality to guide the development of research studies and make appropriate statistical adjustments to the data," he says.

Gildemeister says that legislators are attentive to analyses using APCD data in combination with other data. "The ACPD is really incredible as a data source to bring into population health, public health, chronic disease, and administrative and health system inefficiencies. We think about it not as a tool with which to accomplish something but rather as a tool in our toolbox. As we ... talk about the value of prevention and the importance to focus upstream, we're weaving together a story from multiple perspectives. And that really helps in legislative discussions around the efficiency of the health care system and how we prioritize investments. When we have the chance to talk about these things, there is always incredible interest on both sides of the aisle."

Current and Future Plans: Based on growing interest in the APCD by stakeholders, including purchasers, MDH is considering whether the executive branch should propose to open the APCD to a broader array of uses, to better realize the state's investment in this data resource. "In my view, it makes sense to begin with easy achievable stories that fill knowledge gaps and, once you're comfortable that government actually knows how to use claims data, transition to more complicated sets of metrics around value and relative performance," Gildemeister says. He is also interested in exploring research partnerships among states and national databases to allow more creative and effective uses of claims data for policy research.

RECENT REPORTS FROM THE MINNESOTA APCD

Price Variation: An analysis of variation in transaction prices for select frequent health care procedures to provide insights on the health care market in Minnesota.

Epidemiological Studies: A series on topics such as traumatic brain injury treatments, hospitalization patterns for diabetes, cancer care patterns and costs, and hypertension treatments.

Pharmaceutical Spending and Use: A continuing series of analyses by therapeutic drug class; brand, generic, and specialty categories; channels of distribution and payment; provider types; and geography.

Telemedicine Services: Analysis on the patterns of telemedicine use in Minnesota from 2010 to 2015, across insurance coverage types, provider type, and rurality of patient residence.

State APCD Profile: New Hampshire

Formation and Purpose: The New Hampshire Comprehensive Health Care Information System was authorized by state statute in 2003 to make health care data "available as a resource for insurers, employers, providers, purchasers of health care, and state agencies to continuously review health care utilization, expenditures, and performance in New Hampshire and to enhance the ability of New Hampshire consumers and employers to make informed and cost-effective health care choices." The statute names health care providers, employers, and consumers as parties that would benefit from better understanding of health care costs and utilization.

Governance: The authorizing statute requires the New Hampshire Insurance Department (NHID) and the Department of Health and Human Services (DHHS) to partner on the APCD project. NHID oversees the collection and warehousing of claims data and administers the HealthCost medical shopping website. The DHHS Bureau of Quality Assurance and Improvement oversees the data release process in compliance with privacy laws and regulations.

Funding: The state provided variable short-term resources to support the APCD's initial $3 million development cost. Ongoing data warehouse development and operating costs amounted to approximately $1.16 million annually, on average, during fiscal years 2014 to 2018, with equal shares provided by NHID and DHHS. This amount does not fully account for agency staff time. Approximately half of a $3 million grant awarded to NHID in 2014 by the federal Center for Consumer Information and Insurance Oversight supported improvements in the HealthCost medical shopping website, including adding new data elements and improving data quality and completeness.

Operation and Data: The state contracts with Milliman for claims data collection and processing as well as the maintenance of the APCD, which includes encrypted medical, pharmacy, and dental claims. Data are submitted by commercial and Medicare Advantage plans, some self-insured employer plans, and the Medicaid and Medicare programs. From health plans, Milliman also collects Health Employer Data and Information Set (HEDIS) data on the quality of care. The University of New Hampshire's mobile development team developed the HealthCost website on behalf of NHID. Data verification and analytics for the website are provided by the Human Service Research Institute under a separate contract.

Lessons Learned: Use of the HealthCost website has been growing, reaching 30,000 visitors in a recent month, as compared to 15,000 visitors over three years from 2011 to 2013. State officials attribute this uptick to consumer interest in expanded content as well as their efforts to market the website through employers, social media, and advertising on Google Search. "We learned by chance that having a Frequently Asked Questions section with helpful information about health insurance drove a lot of web traffic through Google searches. So, we embedded links to some of our cost estimates through the questions, which drove a lot of traffic to the rates," says Maureen Mustard, director of health care analytics for NHID.

Officials and observers note several benefits of using the state's APCD to support health care cost transparency. Insurers have identified opportunities to negotiate better deals with providers, while providers have become more sensitive to whether they will be identified as an expensive facility. Experts claim that price transparency in New Hampshire has encouraged the use of value-based benefit designs that stimulated hospitals to lower prices for some services. An independent study found evidence that these types of market behaviors have contributed to long-term reductions in negotiated prices for medical imaging services in the state. The credibility and utility of the HealthCost website has convinced legislators that they don't need to require every provider to disclose its rates, says Tyler Brannen, director of health economics for NHID.

Current and Future Plans: State officials report that stakeholders have asked for more cost estimates to be included on the HealthCost website, which, because of budget limitations, may pose implementation challenges. They hope to further demonstrate the value of the APCD, such as by linking clinical and community level data to manage population health.

RECENT REPORTS FROM THE NEW HAMPSHIRE APCD

Analysis of Commercial Insurance Claim Data Related to Opiate Substance Use Disorder (OSUD) reported that medical costs associated with OSUD ranged from $1.55 to $2.68 per member per month among four commercial carriers, representing 0.5 percent of their total medical payments on average.

An Analysis of Price Variations in New Hampshire Hospitals demonstrated that commercial prices were related to hospital costs, patient acuity, and Medicare payer mix. No significant relationships were found between commercial prices and the proportion of free or reduced-fee care provided by hospitals.

A Study of Ground Ambulance Transport Commercial Claims found a large difference between the cost of emergency and nonemergency transports, driven by both longer distances traveled and higher mileage charged for nonemergency transports.

HealthCost Website: In 2007, the NHID launched the first medical shopping website to use state APCD data to estimate median costs for common medical tests and procedures. Users can learn the total cost of a procedure — including physician fees, lab fees, and facility fees — based on their insurance coverage, deductible, and co-insurance. The website now covers more than 100 medical tests and procedures at facilities statewide, two dozen dental procedures, and a dozen prescription drugs. It also displays quality measures for the state's health plans and hospitals, such as patient experience and infection rates.

State APCD Profile: Utah

Formation and Purpose: The Utah Health Data Authority Act authorized the creation of a Utah Health Data Committee to "direct a statewide effort to collect, analyze, and distribute health care data to facilitate the promotion and accessibility of quality and cost-effective health care." Under the committee's direction and the authority granted through administrative rules, the Utah Department of Health's Office of Health Care Statistics (OHCS) in 2008 began developing the Utah APCD to inform research and analysis to help people understand health care cost, quality, access, and value, and identify opportunities for improvement.

Governance: The multi-stakeholder Utah Health Data Committee is appointed by the governor and reports to the executive director of the Utah Department of Health. One of its duties is to "assist the legislature and the public with awareness of, and the promotion of, transparency in the health care market." The committee establishes plans and policies to transform data into objective information regarding health care in Utah while preserving patient privacy and confidentiality. OHCS carries out the committee's goals and plans for the development, implementation, and maintenance of the Utah APCD, among several other data sources.

The committee and OHCS take advice from a Payers Advisory Subcommittee, a Healthcare Facilities Subcommittee, and a Transparency Advisory Group that is a joint project with the public-private Utah Partnership for Value-Driven Healthcare. The Data Use Subcommittee sets policy for OHCS to follow in responding to routine requests for the use of APCD data for research and statistical purposes; the subcommittee reviews and decides on nonroutine requests.

Funding: The Utah APCD's $800,000 operating budget is supported by $615,000 from the state's general fund and $185,000 in federal Medicaid matching funds. This represents about half of the OHCS budget, with the remainder supporting a variety of other data sources. In 2014, the federal Center for Consumer Information and Insurance Oversight (CCIIO) awarded $3.4 million to Utah to be used in part for enhancing the APCD, including improving data quality and analytic capacity and developing cost transparency reports. The APCD generates revenue as a data source for grant-funded projects, such as the measurement of total cost of care. OHCS collects fees from external users of the APCD. This includes a subscription arrangement with the University of Utah.

Operation and Data: OHCS contracts with Milliman to collect claims data from payers, validate its quality, and enhance it with risk adjusters, cost calculations, quality measures, and patient-provider attribution. Milliman turns the processed data over to the state's Department of Technology Services, which manages the database on behalf of OHCS. The APCD includes medical, pharmacy, and dental claims. Data are collected from commercial and Medicare Advantage plans, some self-insured employer plans, and the Medicaid and Medicare programs.

Lessons Learned: While officials acknowledge the limitations of claims data, they say the APCD is just "scratching the surface" of its potential for informing consumers, monitoring health system functioning, and identifying opportunities to reduce costs. Limited resources are a constraint to realizing this vision. The analytic capability of the APCD was not fully realized in its early years due to vendor issues and data limitations. Subsequently, the state revamped the database and built a foundation for the future by improving APCD data quality and filling gaps in the database, such as by collecting data on uninsured residents who receive care at federally qualified health centers. An evaluation of the CCIIO grant reported "overwhelmingly positive" feedback from users about the utility of APCD data.

Over the past few years, because of its interest to stakeholders, OHCS and the transparency advisory group have focused on enhancing the APCD's capabilities to measure and report on the quality of care. One example is OHCS's report on quality of care in clinical practices. Officials are assessing how to report on the costs of care in a way that will be useful to stakeholders. In response to a legislative mandate, the state auditor is using the APCD to develop a website, indexed by provider and zip code, displaying the average cost of select services. It remains to be seen whether this information will be used by consumers.

Current and Future Plans: "An APCD is a long-term investment and a minor expense in comparison to the amount that could be saved by reducing overuse," says Carl Letamendi, Ph.D., who was recently hired as the new OHCS bureau director. He hopes to resume publishing reports on the total cost of care in cooperation with the federal quality improvement organization for Utah. In collaboration with OHCS, the Transparency Advisory Group is planning to evaluate current metrics used in provider quality measurement by insurance plans and make recommendations on aligning these with public reporting by the APCD; create and publish a report on the price of the top 50 procedures provided in Utah, in accordance with a legislative mandate; and craft a report summarizing the state of health care cost and quality in Utah.

RECENT REPORTS FROM THE UTAH APCD

COVID-19 Health Care Trends: This documents changes in the use of prescription drugs, physician office visits, telehealth visits, and childhood vaccinations during the onset of the COVID-19 pandemic.

Back Imaging and Colonoscopies by Place of Service: The median cost for each type of procedure was lowest in physician clinics as compared to ambulatory surgery centers and outpatient hospital settings.

The Rise of Urgent Care Clinics and Telehealth: Decreased use of emergency departments for the top 10 major diagnostic categories coincided with increased use of urgent care and telehealth visits.

Opioid and Other Pain Medication Use in Utah: This analysis documented a modest decrease in the use of opioids as a share of pain medications, as well as in the number of days of opioids prescribed.

State APCD Profile: Virginia

Formation and Purpose: Following the recommendations of a Governor's Health Reform Initiative, the Virginia APCD was created by statute in 2012 to "facilitate data-driven, evidence-based improvements in access, quality, and cost of health care and to promote and improve the public health through the understanding of health care expenditure patterns and operation and performance of the health care system." According to officials, the intent was to make data available to health care purchasers — including employers and consumers — to compare the quality and efficiency of health care statewide and among regions of the state and to support the design and evaluation of alternative delivery and payment models.

Governance: Virginia Health Information (VHI)—a multistakeholder, nonprofit organization—operates the APCD under contract with the Virginia Department of Health (VDH), which has statutory authority over the APCD in cooperation with the Virginia Bureau of Insurance. The APCD is governed by a multi-stakeholder advisory committee, which is appointed by the State Health Commissioner with membership specified by law. VHI collaborates with other organizations to achieve its mission. For example, the nonprofit Virginia Center for Health Innovation uses APCD data analysis for health system improvement initiatives.

Although the authorizing legislation did not require health plans to submit claims data, it expected enough voluntary participation to have 75 percent of the state's privately insured residents in the APCD. By 2015, approximately 65 percent of the state's privately insured residents were represented in the APCD. To shore up the program, the legislature mandated that health plans submit claims data to the APCD as of July 1, 2019, using an industry standard Common Data Layout to reduce the administrative burden of doing so.

Funding: The annual cost to operate the Virginia APCD is approximately $1.4 million. During its developmental phase, the voluntary APCD program was privately funded through a cost-sharing agreement between the Virginia Health Plans Association (40%), Virginia Hospital and Healthcare Association (40%), and VHI (20%). The mandatory APCD program began receiving state funding as of July 1, 2019, in the amount of $1.025 million from the VDH and $350,000 through federal Medicaid matching funds. VHI generates approximately $250,000 in revenue annually to support the APCD by licensing data uses as approved by a data release committee.

Operation and Data: VHI contracts with Milliman to perform APCD data management and analytics. The APCD includes encrypted medical and pharmacy claims data collected from commercial plans, some self-insured employer plans, and the Medicaid and Medicare programs. VHI is responsible for administering the Virginia Hospital Discharge Database; producing a comparative report on health plan cost and quality; and publishing hospital efficiency reports.

Lessons Learned: VHI's leaders recommend that states learn from one another about what kinds of reports stakeholders are willing to pay for and what kind of information generates interest for policymakers. VHI initially provided access to the APCD through a flexible analytics platform. However, occasional users of the platform often required coaching support from VHI staff. Officials report that use of the database has increased significantly since VHI worked with stakeholders to design a set of standard reports to meet their routine needs.

VHI's leaders also offered the following advice for other states considering an APCD:

- Engage stakeholders to set expectations for how the APCD will support a transparency agenda and to address challenges with legislation, funding, technology, and staffing.

- Ensure the technical ability to query and analyze large amounts of data at a granular level.
- Document and reflect on known data quality issues and their potential impact.
- Develop a data update schedule and try to stick to it as much as possible.
- Seek access to Medicare claims data early in the APCD development process.
- Consider using the Common Data Layout to ensure data quality and processing efficiency.
- Be aware of limitations on private self-insured employer plans governed by ERISA.
- Seek federal Medicaid matching funds to help spread out operational costs.
- Know what APCD data can do well and what it cannot.

Current and Future Plans: VHI hopes to reduce gaps in the APCD by encouraging self-insured private employers governed by ERISA to voluntarily submit claims data to the APCD. It also hopes to reduce the time lag in data availability by speeding up processing time in collaboration with Milliman and to increase public reporting around health care costs and provider quality. One of VHI's strategic goals is to enhance relationships with legislators and their staffs to promote positive legislative outcomes and enable them to respond to the public's need for health care information in a reliable and unbiased manner.

RECENT REPORTS FROM THE VIRGINIA APCD

Healthcare Price Transparency Report: Displays statewide and regional median prices and price range by place of service and type of provider for 37 services or procedures. The report reveals that the same service could cost as much as two to three times more depending on where one lives and receives treatment.

Low-Value Services: Reports the prevalence and total and average cost of low-value services, statewide and by region, for 44 services that provide little or no clinical benefit to patients.

Potentially Avoidable Emergency Department Visits: An interactive dashboard that analyzes rates and types of potentially avoidable emergency department visits. Data can be compared by Virginia county, health planning region, and insurance type over multiple years.

State APCD Profile: Wisconsin

Formation and Purpose: In 2005, a group of stakeholders including health care providers, purchasers, payers, and state agencies created the Wisconsin Health Information Organization (WHIO) to develop a voluntary statewide APCD. The creation of an APCD, which became operational in 2008, reflected their common interest in compiling comparative data on the quality and cost of health care in the state.

Governance: WHIO is a nonprofit organization governed by a multi-stakeholder board of directors including representatives from state agencies, health care provider organizations, health plans, and employers. Its mission is to improve the quality, affordability, safety, and efficiency of health care in Wisconsin. WHIO works under a contract with the Wisconsin Department of Health Services (DHS), which is required to maintain a health care claims repository under statutory authority.

Funding: A Health Care Transparency Bill, enacted in 2009, dedicated state funds to support the use of WHIO data by state agencies through revenue derived from assessments on physicians. This revenue source has since ended. Since 2016, WHIO has been solely funded by its sales of data files, extracts, standard reports, and custom analytics and reporting for its customers. Submitting health plans receive a substantial discount on data access fees.

Operation and Data: WHIO contracts with the vendor SymphonyCare to manage its data warehousing, analytic, and reporting functions. Health plans that serve the state employee benefit plan are contractually required to submit medical and pharmacy claims to the APCD for all of their commercially insured and Medicare Advantage plan members. Other health plans and a coalition of self-insured employers voluntarily submit such claims data; the state DHS contributes claims data on Medicaid beneficiaries. WHIO is planning to incorporate Medicare claims in the APCD through its certification under the Medicare Qualified Entity Program.

Customers of the WHIO Intelligence Bank have access to two de-identified data files: 1) a Standard Integrated Data File, which is used for research and to assess provider efficiency and quality across the care continuum of care; and 2) an Enhanced Data File, which includes advanced analytics such as normalized pricing of services, episode-of-care bundles, and risk stratification tools.

> **The WHIO Intelligence Bank:** Hospitals and health systems are regular users of data from WHIO. Subscribers can benchmark the quality and efficiency of health care providers to identify opportunities for improving health system performance and market agility (prices are normalized to mask negotiated fee schedules). For example, they can use the tools to answer questions such as: How does this system stack up against competitors? What is causing variation in quality of care and resource use? What doctors do I need to work with to improve quality and efficiency? Sophisticated data users can access the tools on a portal or download de-identified data directly into their own IT systems for custom analyses.

WHIO also hosts a reporting portal, Applied Insights, which provides benchmarking reports to provider organizations and health plans on key performance indicators, out-migration of patients, opioid prescribing behaviors, and more. WHIO recently discontinued its consumer medical shopping website due to lack of use and the cessation of state funding.

Lessons Learned: WHIO's leaders say that a voluntary approach has both challenges and benefits. Compared to states where data submission is required by statute, the WHIO has had to expend more resources to engage health plans in submitting their data and has not been able to obtain key data elements from all health plans. On the other hand, the WHIO has more flexibility in the products and services it can provide and the ability to adapt its approach to meet stakeholders' evolving needs.

"Our data have enabled state agencies, providers, health plans, employers, and others to compare the quality and cost efficiency of health care in our state and to drive improvement initiatives," says Dana Richardson, WHIO's CEO. "Providers can determine their performance compared to peers and statewide benchmarks, and payors use the information to support benefit plan design, to create high-performance networks, and for incentive-based contracting."

Current and Future Plans: During 2020, on behalf of the state Department of Health Services, WHIO is reporting on the statewide impact of COVID-19. These reports describe the effect of coronavirus on patients who contract the illness, as well as its economic impact on the state's health care delivery system. WHIO is collaborating with another statewide nonprofit organization, the Wisconsin Collaborative for Healthcare Quality, in a joint venture to combine claims data from the APCD with clinical data from electronic health records. This should produce more accurate measurement of quality of care, resource utilization, and outcomes by provider for patients with diabetes and behavioral health issues.

RECENT REPORTS FROM THE WISCONSIN APCD

Benchmarking the Impact of the Coronavirus: Counts the number of state residents at high risk of complications from COVID-19. Data files were provided to the state's Medicaid agency and several insurance companies so that they could identify and notify affected beneficiaries and members.

Telehealth in Wisconsin: Describes the use of telehealth by region, age and gender, conditions treated, and type of insurance coverage.

WHIO Atlas of Health Care in Wisconsin: Illustrates variation in resource use by primary care physicians, by service category, and provider geography.

A County Level Comparison of Quality and Effective Use of Resources for Primary Care Practices: Rates each county's primary care physician specialties on how well they provide evidence-based care and make efficient use of health care dollars as compared to their statewide peer group.

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