

COLORADO'S ALL PAYER CLAIMS DATABASE 2013 ANNUAL REPORT

*Health Care Data to Support
Improving Care, Lowering Costs and
Improving the Health of Coloradans*

**Prepared for the Governor and General Assembly by the
Center for Improving Value in Health Care (CIVHC) and
approved by the APCD Advisory Committee**



CENTER FOR IMPROVING
VALUE IN HEALTH CARE

Table of Contents

Executive Summary	I
Sample Public Reports	5
I. Driving Toward High Quality, High Value Health Care: The Role of Colorado's All Payer Claims Database.....	8
Background: The Need for an APCD	8
Uses of an APCD	9
Unique Colorado Design	11
II. 2013 Milestones.....	14
Statutory Changes	14
Data Acquisition.....	15
Public Reporting.....	15
Website Utilization.....	17
Media Coverage	18
Custom, Non-Public Reports to Support the Triple Aim and APCD Sustainability	19
III. Plans for 2014 - 15.....	20
IV. Operations and Sustainability	21
Privacy and Security	21
CO APCD Oversight and Governance	21
Financial Plan for Sustaining Operations.....	22
Appendix A: CO APCD Receives National Innovation Award	24
Appendix B: CO APCD History, Statute and Milestones	25
History of Colorado's APCD	25
Statutory Milestones	25
Appendix C: Data Release Review Process.....	30
Appendix D: CO APCD Stakeholder Outreach Groups.....	32
Appendix E: Members of the CO APCD Advisory Committee.....	33
Appendix F: CO APCD Media Mentions and Publications	35

Appendix G: Data Release Review Committee Members	40
Appendix H: Data Warehouse Manager and Privacy and Security	41
Appendix I: APCD Oversight Roles and Relationships	43
Appendix J: Privacy, Security and Data Release Fact Guide	46
Appendix K: About CIVHC	51
Appendix L: Current CIVHC Board of Directors	52

Executive Summary

Overview

In 2010, legislation was passed to develop the Colorado All Payer Claims Database (CO APCD). The goal of the CO APCD is to advance the “Triple Aim” goals of improving the quality of care for individuals, improving the health of Coloradans and containing costs by providing comprehensive, transparent information about spending and utilization of health care services. The APCD is a tool for empowering decision-making by purchasers and patients, and a gateway to transparency that is necessary for bending the cost curve.

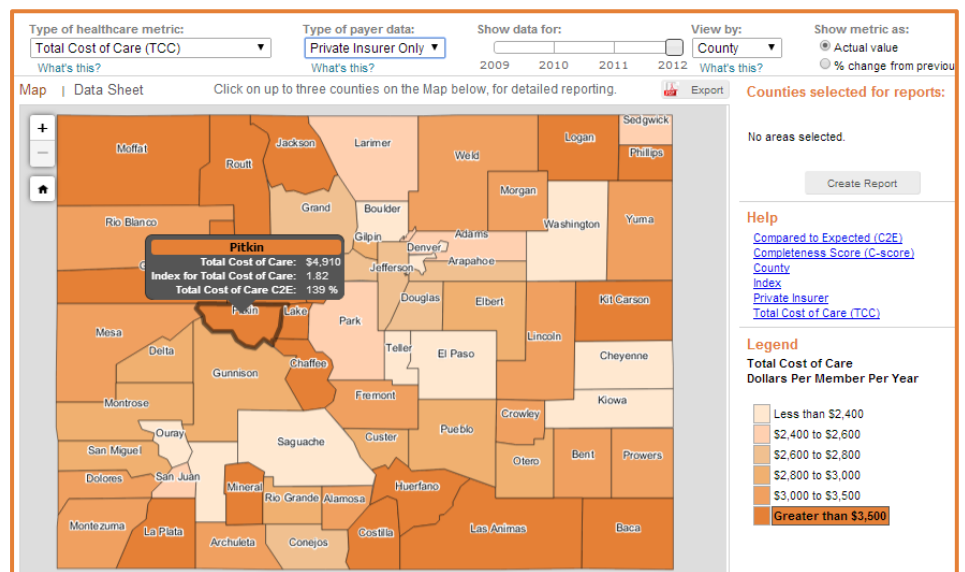
Administered by the Center for Improving Value in Health Care (CIVHC) through appointment by the Colorado Department of Health Care Policy and Financing (HCPF), the CO APCD is a unique and powerful public resource that can be used to inform innovation. The current APCD database contains claims information previously unavailable for the state. Current claims in the APCD encompass:

- Medicaid and the largest 14 commercial health insurance payers (large group, small group, and individual lines of business)
- Claims from 2009-2012
- Over 146 million claims, with more being added monthly
- Claims representing more than 3.2 million unique Coloradans
- Over 50 percent of the insured population of the state

No other claims database of this magnitude exists in Colorado, nor do most states have access to this level of information to inform patterns of health and costs of care. Colorado stands out as one of the states with the most robust public and non-public reporting to inform innovation. **It's important to note that only 10 states in addition to Colorado have claims data collection processes that are either operating or have operated in the past. Of those 10 states, only seven have produced reports or have released data sets to researchers, and no states have offered public access to the data at the level available in Colorado.**

The current APCD website, www.cohealthdata.org, is designed to help policymakers and researchers understand variation in health care spending and utilization across Colorado using a variety of interactive reports. The breadth and level of analysis by year and geography currently available on the website surpasses the public utility of most other APCDs currently in existence. Figure 1 depicts one example of the types of reports currently available that can inform opportunities to reduce cost. This map

FIGURE 1: TOTAL COST OF CARE MAP (2012, COMMERCIAL HEALTH INSURANCE)
WWW.COHEALTHDATA.ORG



illustrates Total Cost of Care on a county-by-county basis, illuminating the differences between regions of the state. Other metrics available on the current website include inpatient, outpatient, and ER utilization and costs,

and compared-to-expected values based on the relative health of the population. (Please see sample reports at the end of this section.)

In addition to the public website featuring high-level aggregated claims, providers, policymakers, researchers and other organizations seeking to achieve the Triple Aim can gain access to more in-depth reporting. Colorado's Data Release Review process strictly adheres to all HIPAA and HITECH patient protection standards, while enabling providers and purchasers to identify opportunities to improve care and lower costs for Coloradans. The ability to provide more meaningful reports via a data release process also sets Colorado apart from other APCDs.

The APCD Administrator plans to launch a patient-focused website in 2014 that will enable Coloradans to compare price and quality of procedures, facilities and physician practices.

2013 Accomplishments

In 2013, the CO APCD grew significantly in both size and utility. Since the original launch of the public website in late 2012, numerous enhancements have been made to the site to add additional views into the health care landscape across the state. In addition, more organizations are now utilizing custom reports and data sets available from the APCD to support their Triple Aim efforts. Highlights from 2013 include:

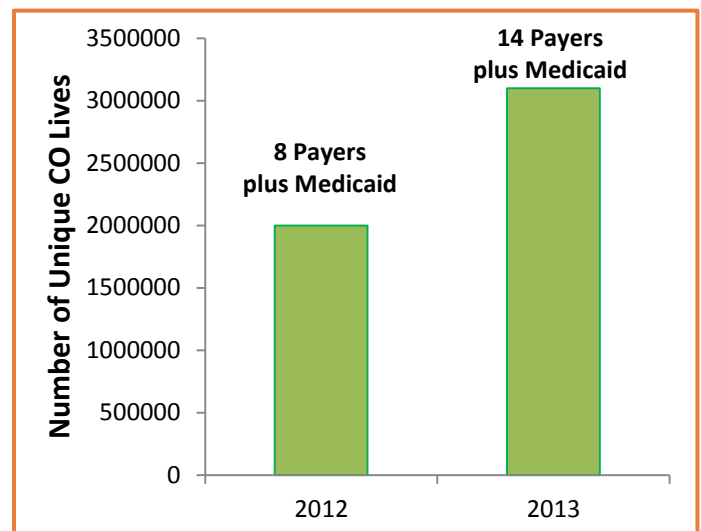
Data Onboarding

Originally launched in late 2012 with claims from the eight largest commercial health insurance payers and Medicaid, the APCD now contains claims from the 14 largest commercial payers and Medicaid. Commercial claims are for fully-insured plans in the individual, small group and large group markets.

Medicare Data Inclusion

In late 2013, the APCD Administrator received Qualified Entity (QE) Certification from the Centers for Medicare & Medicaid Services (CMS) under the Affordable Care Act. This enables the APCD to begin receiving Colorado Medicare claims to report quality measures at the provider level on the APCD public website.

FIGURE 2: CLAIMS DATA GROWTH FROM 2012- 2013



Legislative Modifications

HB 13-1242 enabled the CO APCD to begin collecting claims from the small group market, and SB 13-147 reauthorized the APCD Advisory Committee.

Enhanced Public Reporting

- In July 2013, we added new “compared to expected” values based on risk-adjusted data, new reports on prevalence and costs to treat chronic disease (asthma and diabetes), and enhanced public website functionality.
- In December 2013, claims from 2012 were incorporated in the APCD, as well as 30-day all cause readmissions (both population based and potentially preventable measures), percent generic drug penetration, breakouts of commercial and Medicaid data for all reports, and overall functionality enhancements on the public website.

Data Use to Achieve Triple Aim

The APCD began to make custom, non-public datasets and reports available in early 2013 under the guidance of a Data Release Review Committee. The Administrator and Committee follow a rigorous set of standards for approving data requests requiring that each request meet Triple Aim objectives of improving the care of individuals, the health of populations and controlling costs. The data release process strictly adheres to HIPAA and HITECH rules and limitations for data release to protect patient privacy, and complies with federal anti-trust law requirements to release claims data only on an aggregated, median basis. In 2013, the APCD Administrator received 28 pre-applications and 12 formal applications for data. The APCD Data Release and Review Committee approved multiple requests for limited and de-identified custom data sets and reports to improve care and lower costs including:

- A research organization evaluating care efficacy for Medicaid patients by combining claims with clinical data for approximately 100,000 patients over a four-year period.
- A non-profit organization analyzing claims information in the APCD to analyze “episode of care” (bundled) pricing opportunities.
- A non-profit health care association informing its statewide members on payment reform opportunities focused on value-based reimbursement strategies.
- A group of orthopedic physicians using claims to evaluate opportunities for bundled payments and negotiations with health plans.

National Recognition

Because of the unique way in which the Colorado APCD is administered and executed, other states turn to Colorado for advice on developing and administering an APCD. As one example of the national recognition the Colorado APCD has received, the National Association for Health Data Organizations (NAHDO) awarded the APCD administrator their 2013 “Innovation in Data Dissemination” award. (See [Appendix A](#) for the press release.)

Upcoming Milestones

- The APCD will be enhanced to include a patient-focused section on the website in 2014 to enable patients to shop for high-value health care. This will be a unique resource in Colorado, showing median prices paid by health plans as well as out-of-pocket costs incurred by patients—not simply how much a facility charges. In addition, the information will reflect both fees paid to facilities and those paid to the participating physicians—a level of detail that is often missing from other price comparison tools, and one that is essential to give patients a complete picture of their potential costs. Crucially, this portion of the site will feature both price and quality information to inform patient decision-making. The APCD Administrator anticipates launching this portion of the website in stages, beginning with a limited number of acute-care procedures at hospitals in mid-2014, then expanding in the following quarter to a larger list of procedures, diagnostics and facilities (i.e., ambulatory surgery centers and diagnostic facilities). In 2015, the Administrator intends to expand this reporting to physician practices. All the information presented on this portion of the website will first be reviewed by the facilities and physician practices reflected, who will have an opportunity to correct information before it is made public.
- By 2015, claims from Medicare and the remaining commercial plans will be incorporated in the APCD, eventually reflecting the majority of insured Coloradans.

Sustainability

Currently, CO APCD operations are supported by grants from the Colorado Health Foundation and The Colorado Trust which expire in 2016. As a condition of those grants, the foundations required the Administrator to develop a plan for long-term sustainability of the APCD. That sustainability plan is based upon covering expenses by charging fees for custom, non-public data sets and reports. In 2013 the Administrator began to charge such fees as part of our “ramp up” toward eventual full sustainability by 2017. Our pricing

model is commensurate with that of other APCDs that charge fees for data and competitive with commercial competitors, and the Administrator met its revenue targets in 2013. However, there is an inherent tension between the need to make APCD data broadly available in order to improve quality and control costs, and the pricing necessary to cover the costs of maintaining the database. Simply put, many important users (e.g., state agencies, small non-profit organizations) that need APCD data to inform their work cannot afford the cost. The Administrator, in collaboration with HCPF, hopes to establish a fund out of HCPF's budget to offset the cost of APCD data for state agencies and small non-profits.

Summary

The Colorado APCD provides the transparency essential to making markets work. It is one of the most advanced in the country, and is a unique resource for policymakers and purchasers seeking to understand and address variations in costs, spending and utilization. These data are particularly important now as policymakers seek to understand regional variations in costs and insurance premiums. Going forward, the APCD will become an even more valuable resource as it equips patients with the tools and information they need to make more informed purchasing decisions.

Sample Public Reports

The Colorado APCD serves as a tool to identify innovative solutions to improve Colorado's health care system. Equipped with the power of data to inform and transform health care payment, delivery and purchasing, communities, policy analysts, payers, providers, businesses and consumers can drive change into the market. The sample reports below provide examples of the types of analysis that are possible with the Colorado APCD and demonstrate how the APCD can begin to shed light on opportunities to reduce variation.

These samples illustrate the type of reports currently available on the public APCD website, www.cohealthdata.org. Comparative price and quality information for specific procedures (e.g., joint replacement surgeries, births, diagnostic services, etc.) at identified facilities will be made available on the public website later in 2014. In addition, as described later in this report, the Administrator makes custom datasets and reports available to state agencies, researchers, providers and others, subject to strict privacy and anti-trust rules, for purposes of improving quality and controlling costs.

FIGURE 3: HEALTH CARE EXPENDITURES BY HEALTH STATUS OF POPULATION, 2011

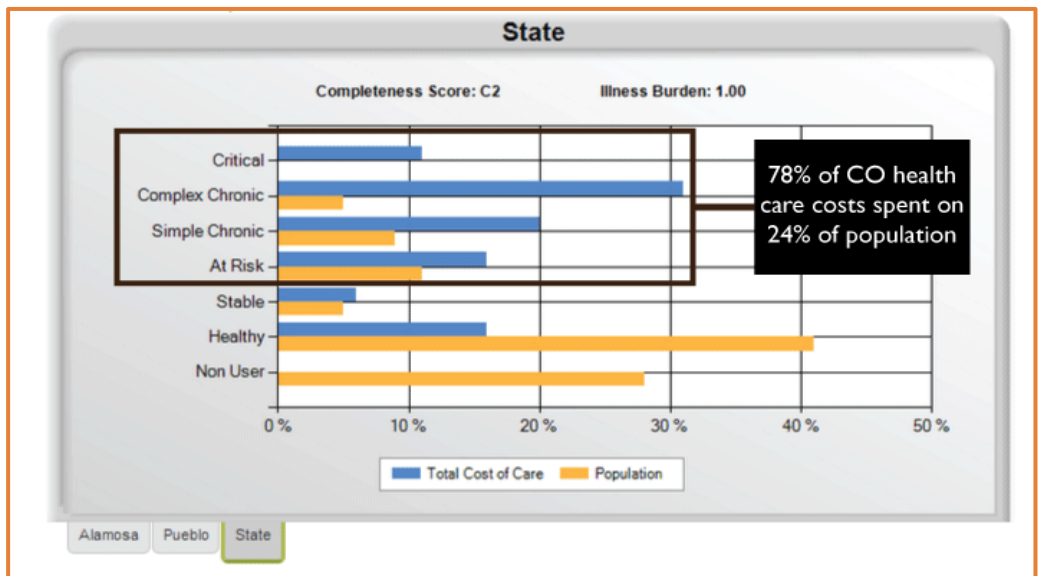
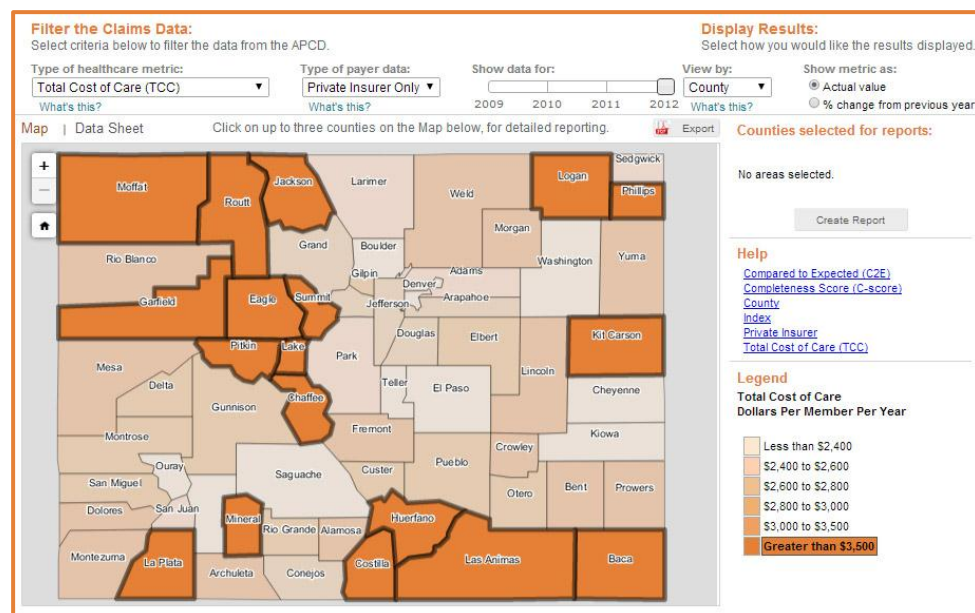
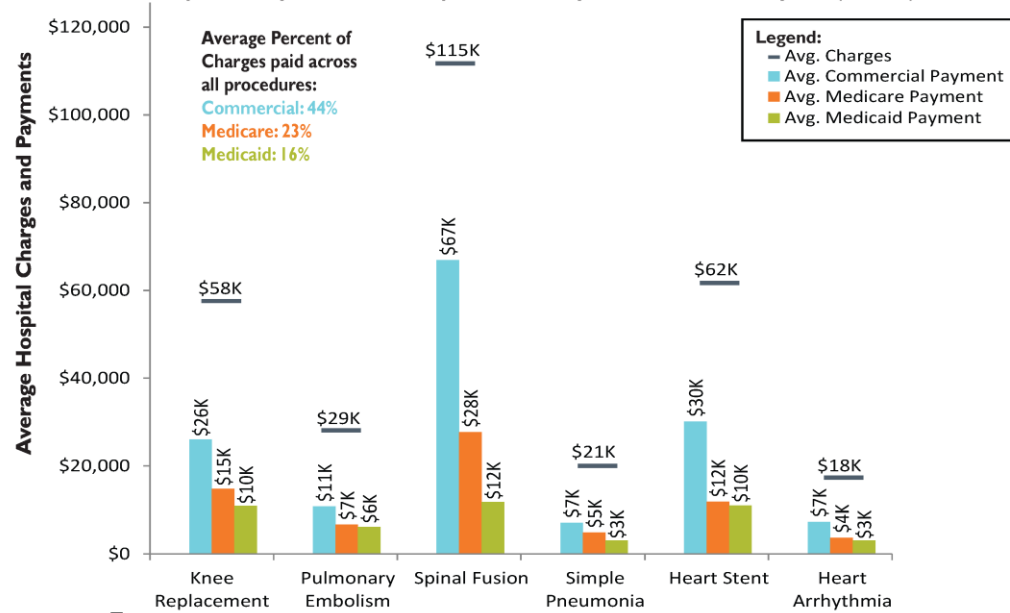


FIGURE 4: 2012 COUNTIES WITH TOTAL COST OF CARE, OVER \$3,500 PER MEMBER PER YEAR, COMMERCIAL PAYERS

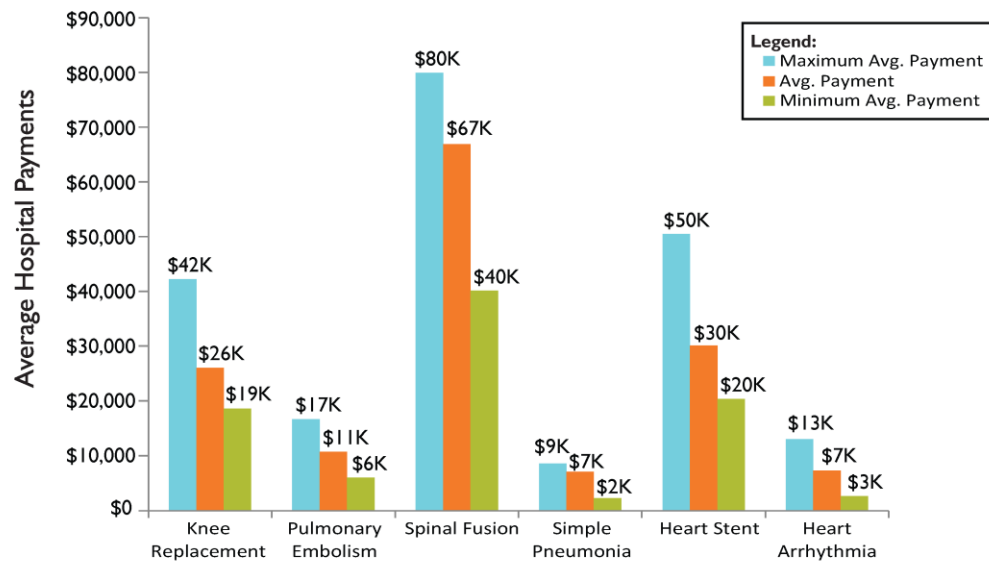


FIGURES 5 AND 6: HOSPITAL PAYMENT VARIATION FOR COMMON PROCEDURES BY PAYER TYPE AND COMMERCIAL PAYMENT VARIATION BY PROCEDURE

Colorado Hospital Payment Comparisons by Procedure/Payer (2011)



Colorado Hospital Commercial Payment Variation by Procedure (2011)



Average charges and payments represent the largest hospitals by procedure volume in Colorado. Commercial and Medicaid figures were generated from 2011 claims data in the Colorado All Payer Claims Database (www.cohealthdata.org) as of May 2013 and include claims data from the eight largest commercial payers in Colorado (large-group and individual fully insured lines of business) and Medicaid. Average Medicare charges and payments were calculated for the same hospitals using the Medicare Provider Charge Data. Payment amounts represent reimbursements for facility costs only and are based on Diagnostic-Related Groups 470, 176, 460, 195, 251, and 310. Contact ColoradoAPCD@civhc.org for more information.

FIGURE 7: 2011 VARIATIONS IN IMAGING PRICES

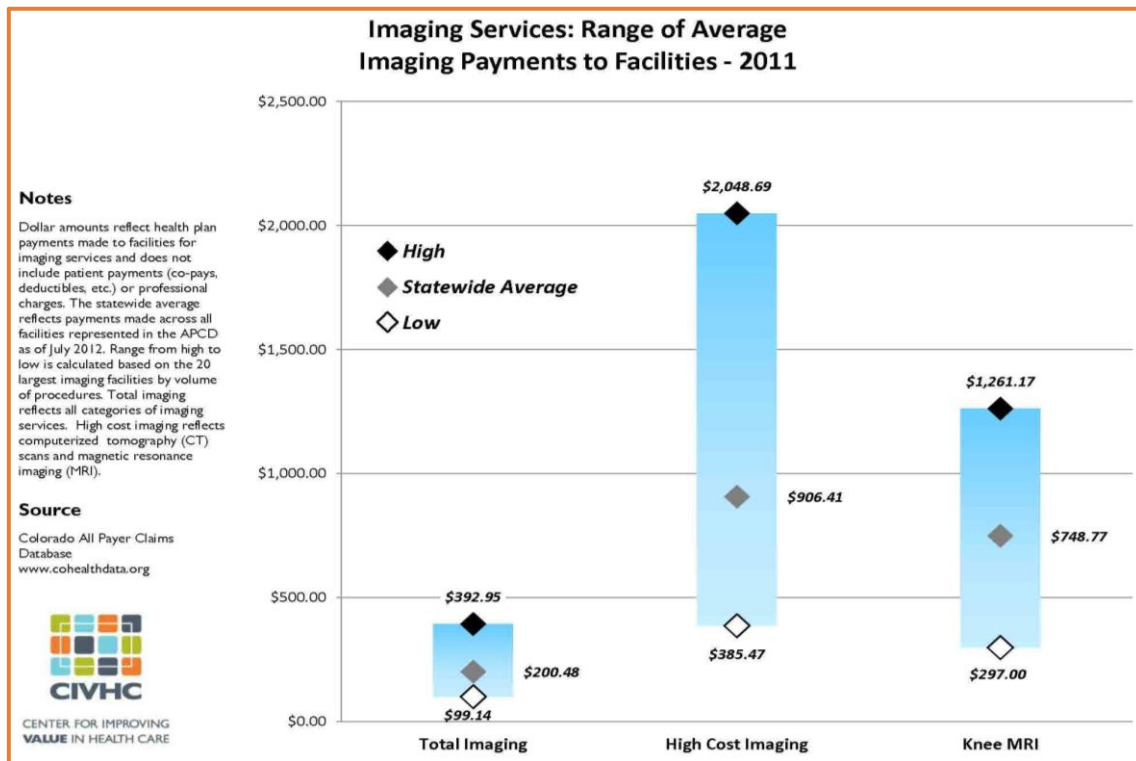
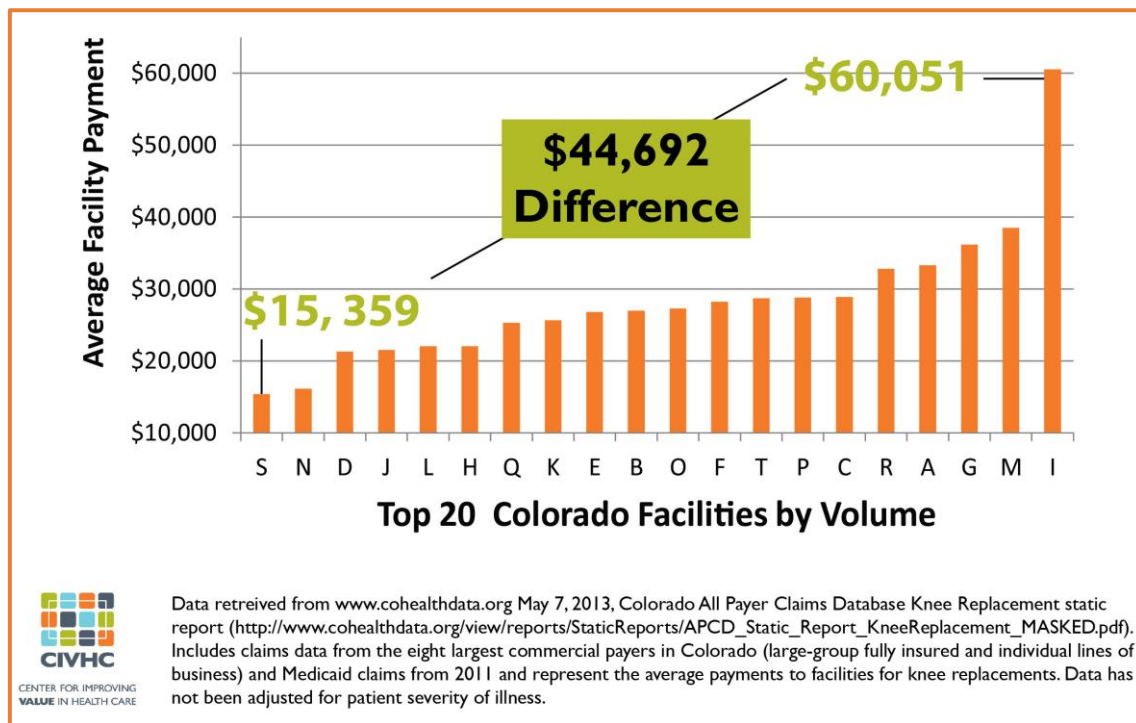


FIGURE 8: 2011 KNEE REPLACEMENTS FACILITY PRICE VARIATION



I. Driving Toward High Quality, High Value Health Care: The Role of Colorado's All Payer Claims Database

Background: The Need for an APCD

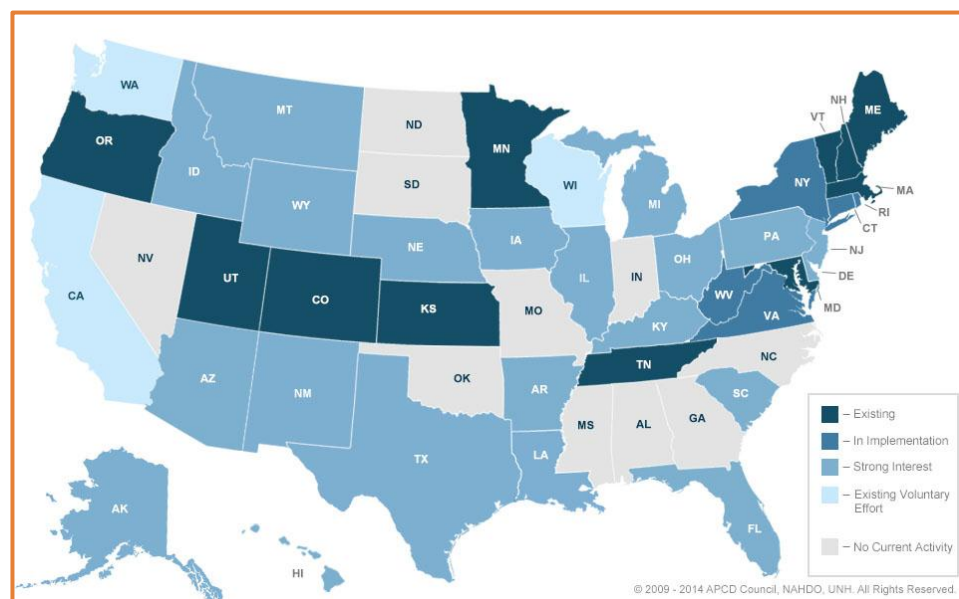
One of the characteristics of an efficient market is adequate information. Health care has never operated in this fashion. Consumers know something about the cost of their coverage (though not necessarily the full cost, if their employer contributes). But they do not know the real cost of the care provided to them. Nor, as a rule, do they know much about the quality of the care they are about to receive.

Availability of such information is essential to driving down costs and improving quality. Such transparency will enable consumers and employer purchasers to “vote with their feet,” choosing high-value care as defined by the combination of price and quality. That is why, in 2008, the Blue Ribbon Commission for Healthcare Reform recommended the creation of a Colorado APCD as an essential first step to support controlling cost and improving quality. (See [Appendix B](#) for more information on the history and legislation enacted to develop the Colorado APCD.)

A recent national report from the State Health Care Cost Containment Commission examined ways that state leaders and governors can transform the current fragmented health care system into a more cost-effective, integrated system. The ability to analyze medical claims data was identified as foundational to understanding cost drivers, establishing baselines and trends, and showing variation in services across different regions and health care providers¹.

APCDs are currently gaining momentum across the US. To date, there are 11 mandatory APCDs across the nation, including Colorado, as well as three voluntary ones. However, nearly 20 additional states are strongly interested or are currently implementing APCDs. The map below illustrates APCD activity around the country.

FIGURE 9: MAP OF APCDs ACROSS THE UNITED STATES



¹ Cracking the Code on Health Care Costs, a report by the State Health Care Cost Containment Commission, January 2014. <http://web1.millercenter.org/commissions/healthcare/HealthcareCommission-Report.pdf>, January 28, 2014.

Consumer Role in Changing the Health Care Market

Over the last decade, rising insurance costs have led to significant shifts of costs to consumers through higher deductibles and co-pays. This remains true even with the advent of new plan designs available through public and private health insurance exchanges. While the market is requiring consumers to be more responsible for their health care spending, with few exceptions it has not provided the basic tools that make any market work: access to meaningful and transparent information on the price and quality of medical care.

Health care has been relatively slow to leverage trends in consumer transparency. Colorado launched a hospital comparison website (separate from the APCD) in 2008, but that site only provides information on billed charges, not actual amounts paid. Billed charges are similar to the list price of a car: they are the starting point for negotiations with insurers and individuals, and do not reflect ultimate prices. Thus, this type of transparency is not particularly useful to consumers. In 2013, Medicare released hospital inpatient and outpatient charge information for the first time. Again, though, because they released only charges, the data are not particularly relevant for most individual and employer purchasers. Medicare recently announced it will also begin providing information on a case-by-case basis as it slowly embraces transparency.

Most commercial health plans offer online cost calculators to their enrollees. While these are important and helpful tools, they do not allow patients to compare price and quality across health plans. In a similar vein, Castlight Health, HealthPocket and other technology companies are beginning to provide online tools to employers to provide consumer-friendly health care shopping tools, including pricing and planning for out-of-pocket costs. While all of these initiatives reflect the growing interest and urgency in bringing useful cost and quality information to consumers and employer purchasers, they rely on the public availability of national and local data which is typically limited to a specific type of provider or health plan. The Colorado APCD provides a more comprehensive view of Colorado's health care landscape by collecting and reporting data from both commercial and public payers across the entire health care system.

Uses of an APCD

The Robert Wood Johnson Foundation recently released a publication identifying best practices and keys to success for APCDs based on analysis of current databases across the US.² In general, the report confirmed that APCDs can help states identify effective policy decisions (Medicaid expansion, health insurance exchanges, etc.), and provide important information in support of payment and delivery reform efforts such as accountable care organizations and patient-centered medical home models. In addition, the report found that APCDs can be useful for evaluating the impact of state reform efforts and population health needs on a regional basis.

Most data sources currently used to inform health care analysis and policy-making (e.g., the national Medical Expenditure Panel Survey, hospital discharge information, and Medicaid and Medicare data) are limited either by the population they include or the point of care at which the data is gathered. The Colorado APCD is the state's only source that gathers data from both the commercial insurance market and public programs, and from the full spectrum of care settings (e.g., physician offices, clinics, hospitals, surgery centers). Any health care service that generates a claim to a third-party payer can be captured in the Colorado APCD. The only health services that cannot be portrayed in the Colorado APCD are those that are provided free of charge or are paid directly by an individual to a provider without participation by an insurer.

² The Basics of All-Payer Claims Databases: A Primer for States
http://www.rwjf.org/content/dam/farm/reports/issue_briefs/2014/rwjf409988

TABLE 1. COMMON INCLUDED AND EXCLUDED DATA ELEMENTS IN APCDs

Information Typically Collected in an APCD	Data Elements Typically Not Included in an APCD
• Encrypted SSN or member	• Clinical information including medical history
• Patient demographics (DOB, gender, ZIP code)	• Services provided to uninsured
• Location of services and facility type	• Denied claims
• Service dates	• Workers' compensation claims
• Information on service provider	• Premium information
• Diagnosis, procedure, and National Drug Codes	• Capitation fees
• Pharmacy claims information	• Administrative fees
• Revenue codes	• Back end settlement amounts
• Type of health plan (HMO, POS, indemnity, etc.)	• Referrals
• Type of contract (single person, family, etc.)	• Test results from lab work, imaging, etc.
• Type and date of bill paid	• Provider affiliation with group practice
• Health plan payment (allowed amounts)	• Provider networks
• Member payment responsibility	• Social Security Numbers

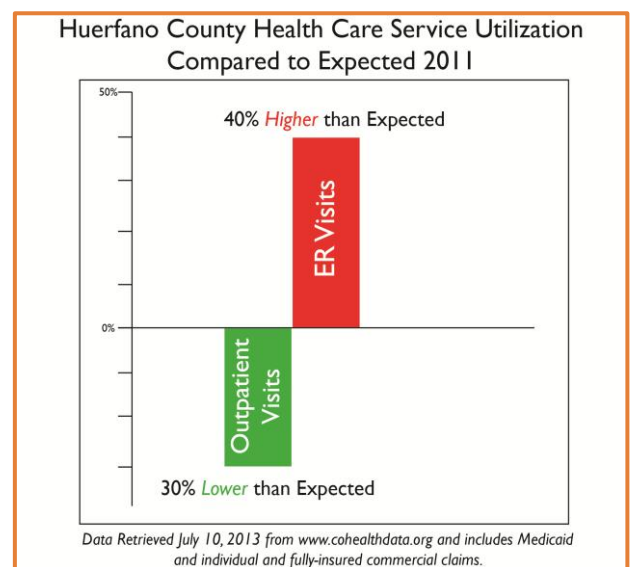
The Colorado APCD provides a reputable, comprehensive, impartial source of information to support making important health care improvement decisions. It can show us, at a glance, variation and trends in spending associated with specific services, providers, and facilities; how often those services are accessed; where care is typically delivered (e.g., physician offices, emergency rooms); comparisons based on the relative health of the population; and how care aligns to best practice recommendations. Such information is essential for identifying interventions in both health care delivery and payment that can help to stem increasing costs, and opportunities to improve the quality of care.

Figure 10 provides an example of the types of insights Coloradans can glean from data currently available on the APCD public website. Huerfano County, south of Pueblo, has 40 percent higher than expected utilization of emergency room care, and 30 percent lower than expected non-hospital visits relative to the health status of its population. Health care providers and other stakeholders in that area can use this information to identify areas to target and to track improvements over time.

The CO APCD also has the ability to support health care purchasers, researchers, providers and policymakers through detailed datasets and custom reports. A wide variety of stakeholders can use the CO APCD to answer important questions:

- **Providers and Facilities** can benchmark costs and utilization compared to their peers in order

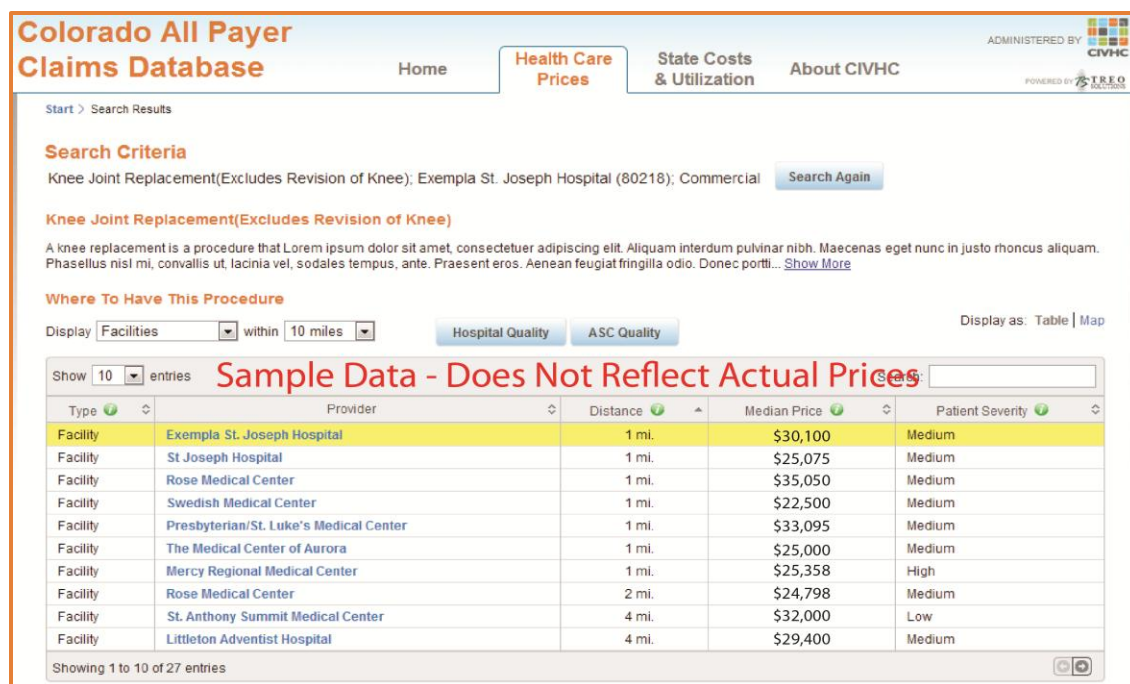
FIGURE 10: HUERFANO COUNTY HEALTH CARE SERVICE UTILIZATION



to identify ways to improve care delivery. They can also use APCD data to develop new payment strategies in collaboration with payers.

- **Employer purchasers** (both private and public sector) can use the APCD to analyze impacts of different benefit designs and make value-based decisions about insurance coverage for their employees.
- **Legislators, policymakers and public health officials** can use APCD data to evaluate trends such as regional variations in spending and disease prevalence, and estimate impacts of policy changes.
- **Local health alliances and communities** can use APCD information to identify opportunities for improvement, establish baselines and track trends in cost of care, utilization and population health.
- **Consumers** will soon be able to use the APCD to make informed purchasing decisions. In 2014, the CO APCD expects to achieve an important milestone: publishing price and quality comparisons for health care services (e.g., diagnostic services, surgeries, elective procedures) at facilities around the state. Figure 11 provides an example of the type of information that will be available at www.cohealthdata.org to help consumers make informed health care purchasing decisions.

FIGURE 11: SAMPLE FUTURE CONSUMER FOCUSED PRICE AND QUALITY REPORTS



Unique Colorado Design

Colorado's APCD differs from those across the country in that a non-profit, non-partisan organization administers the database under authority from the Department of Health Care Policy and Financing (HCPF). Other APCDs in existence are directly administered by the state or a state agency. In the Robert Wood Johnson report, "Realizing the Potential of All-Payer Claims Databases," Colorado's APCD is specifically mentioned for its success in working collaboratively with a variety of stakeholders and setting clear expectations of what the APCD was intended to do. It notes that as a result of this collaboration, Colorado has been able to produce "meaningful reporting outputs" on time and on budget.³

³ Realizing the Potential of All-Payer Claims Databases

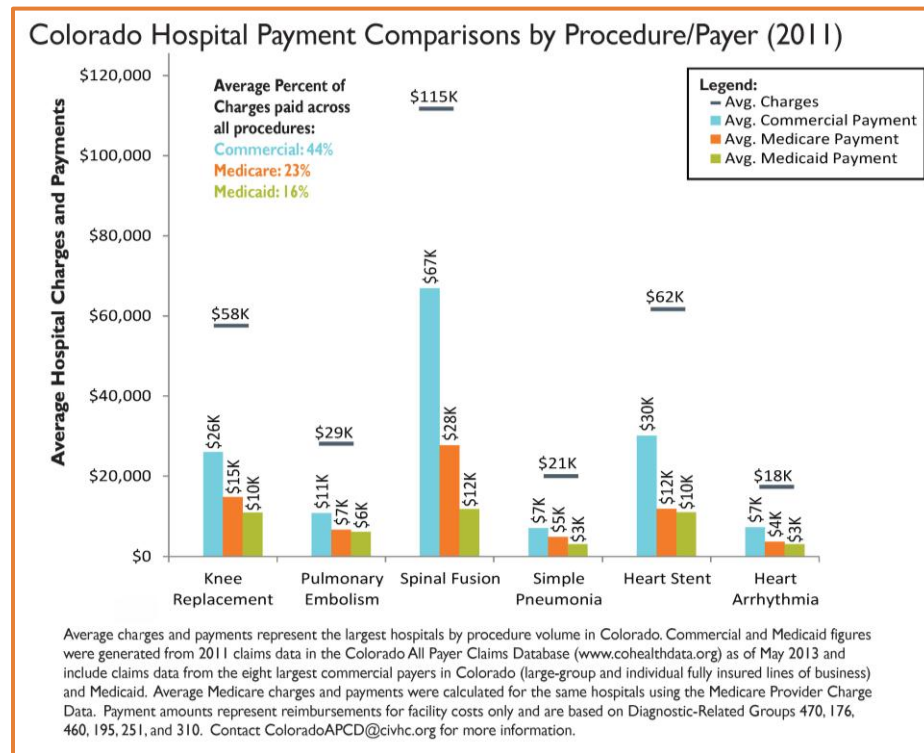
http://www.rwjf.org/content/dam/farm/reports/issue_briefs/2014/rwjf409989, January 2014

The Colorado APCD design allows for additional key benefits including the ability to inform discussions about state and national policy on a timely basis, provide non-public data in support of innovation and generate financial support without the need to rely on taxpayer dollars. These are explained in more detail below.

Timely, Actionable Data

The APCD Administrator can provide timely APCD data analysis to provide a Colorado perspective to data being discussed on a national or regional level. For example, Figure 12 below shows the results of an analysis conducted on Colorado hospital payments for Medicaid and commercial payers for common procedures. This was conducted after Medicare released price information for the first time in history for these procedures. With the additional analysis of the commercial and Medicaid populations, a full picture of variation in prices across all payer types was possible.

FIGURE 12: MEDICAID, MEDICARE AND COMMERCIAL PAYMENT/CHARGE VARIATION



Other examples of timely data analysis include:

- Informing efforts to reduce hospital readmissions by showing readmissions rates broken down between Medicaid and commercial payers, and adding a new, population-based readmission calculation on the APCD website. This measure gives Colorado providers and policymakers a unique and truer picture of readmissions, since it captures admissions to a hospital other than the one from which a patient was discharged—a crucial insight for understanding if efforts to reduce readmissions are to be effective.
- Informing discussions about geographic differences in health insurance premiums by illustrating county-by-county variations in spending and utilization of health care services.

The CO APCD is able to provide this type of timely insight because, in contrast to most APCDs around the country, we update our public website multiple times each year, reflecting the new claims that have been submitted to the database and providing a richer picture.

The design of the Colorado APCD also allows for fulfillment of customized data reports and datasets for organizations and researchers looking for opportunities to advance the Triple Aim for Colorado: better health, better care, lower costs. Colorado's Data Release Review process strictly adheres to all HIPAA and HITECH patient protection standards and anti-trust laws, while enabling providers and others at the point of care to identify opportunities to improve care and lower costs for Coloradans (see [Appendix C](#) for more information).

Table 2 below provides a comparison of the data collection and outputs/products of APCDs across the nation. Colorado stands out as one of the states with the most robust public and non-public reporting to inform innovation. **It's important to note that only 10 states in addition to Colorado have claims data collection processes that are either operating or have operated in the past. Of those 10 states, only seven have produced reports or have released data sets to researchers, and no states have offered public access to the data at the level available in Colorado.**

TABLE 2: OVERVIEW OF APCD DATA COLLECTION AND REPORTING

	Data Collection Status	Outputs/Products to date
Colorado	State APCD; in operation	Public website www.cohealthdata.org with numerous metrics and analysis available, custom reports and data sets through HIPAA/HITECH compliant data release process
Oregon	State APCD; in operation	Research data sets
Washington State (Puget Sound area)	Nonprofit, voluntary; in operation (regional through 2013, statewide in 2014)	Quality and performance reports to providers and to the community; cost reports to member organizations; analysis of Medicaid data for the state
Wisconsin Health Information Organization	Nonprofit, voluntary; in operation (voluntary, covers most of the state)	Quality and performance reports to providers only
Utah	State APCD: new vendor now starting	Three summary reports on Healthy People and Prescription Drug Utilization
Kansas	State APCD: Medicaid and state employees only (no commercial data was collected)	None
Tennessee	State APCD: Awaiting new vendor	None
Minnesota	State APCD: In operation	No public facing reports or research data permitted by law; first round of provider peer comparisons have been distributed
Maryland	State APCD: In operation	Statewide summary of healthcare spending
Massachusetts	State APCD: In operation	Various reports; research datasets; consumer cost website
Maine	State APCD: In operation	Various reports; research datasets; consumer cost website
New Hampshire	State APCD: In operation	Various reports; research datasets; consumer cost website
Vermont	State APCD: In operation	Various reports; research datasets

Sustainability

Housing the APCD within a non-profit entity has enabled access to private foundation funding for development and implementation, thereby minimizing the burden on the taxpayers of Colorado. In addition, non-profit administration allows for the Administrator to seek grant funding for deeper analytic dives into important policy

questions. In 2013, the Administrator was selected to participate in several local and national grants aimed at improving quality and lowering costs. (See Operations and Sustainability section for more information.)

Because of the unique way in which the Colorado APCD is administered and executed, other states turn to Colorado for advice on developing and administering an APCD. As one example of the national recognition the Colorado APCD has received, the National Association for Health Data Organizations (NAHDO) awarded the APCD administrator their 2013 “Innovation in Data Dissemination” award. (See [Appendix A](#) for the press release.)

Stakeholder Engagement

Finally, it is important to note the broad participation and support from key stakeholders in the development and expansion of Colorado’s APCD, and ongoing outreach efforts on the part of the Administrator. These include:

- HCPF and the Administrator worked closely with commercial health plans to develop the APCD statute and regulations governing the plans’ data submissions. That close partnership has continued as the health plans and the Administrator work together to modify and improve the data submission process.
- Prior to the launch of the APCD in 2012, the Administrator conducted extensive outreach with stakeholders from across the state to gain input and buy-in prior to public report development. See [Appendix D](#) for a complete list of the organizations who were interviewed and a synopsis of their public data requests and needs.
- The Administrator has also worked closely with provider groups including the Colorado Medical Society, Colorado Hospital Association and the Colorado Association of Ambulatory Surgery Centers to gain buy-in from their membership on the consumer quality reporting currently in development.
- As the Administrator finalizes plans for the consumer site, it has conducted focus groups with consumers and advocates, and will continue to do more of those prior to the launch, in an effort to ensure that the price comparison site is useful and engaging.
- During 2013, the Administrator continued to connect with a broad array of key stakeholders and groups to inform the priorities and value of public reports available on www.cohealthdata.org. The Administrator is communicating with approximately 1500 stakeholders in 300+ organizations across Colorado and nationally. The audience continues to grow organically as people learn about the APCD and through strategic outreach and meetings.

II. 2013 Milestones

In 2013, the CO APCD achieved several significant milestones, including restructuring the Advisory Committee and its role, adding small group claims, enhancing the public website and reporting capabilities, and making significant progress towards releasing consumer-focused price and quality information.

Statutory Changes

CO APCD Advisory Committee Reauthorization

Per CRS 25.5-1-204, the original CO APCD Advisory Committee was scheduled to sunset on July 1, 2013. Because the Administrator and HCPF strongly believe in the value of an officially-constituted expert advisory group, SB 13-149 reestablished the Colorado APCD Advisory Committee. The Advisory Committee now has a total of 28 members (up from 26), 12 of whom are new to the Committee. (Please see [Appendix E](#) for the roster of Advisory Committee members.) On August 1, 2013, the new APCD Advisory Committee was

approved by the Executive Director of HCPF. The first of the group's quarterly meeting was held on September 11, 2013. In general, the CO APCD Advisory Committee acts as an advisor to the Administrator and provides input on a variety of issues related to the ongoing operations and future priorities of the CO APCD. Over the last year, the Committee has discussed pricing for custom reports, helped develop the CO APCD data release process, and reviewed CO APCD public reporting priorities and timeline.

Small group claims

HB 13-1015 enabled commercial health plans to begin submitting claims from their small business customers. The bill rectified an anomaly in the insurance statutes that prohibited health plans from sharing mental health claims information from the small group market only (previous restrictions on sharing claims in the individual and large group market were eliminated as part of mental health parity legislation over the last decade). That restriction effectively prevented health plans from submitting any of their small group claims, whether physical or behavioral, to the APCD because claims do not necessarily distinguish between mental health and physical health services. The bill had strong backing from behavioral health providers and consumers, who saw it as a way to facilitate greater integration of physical and behavioral health, and passed with bipartisan support.

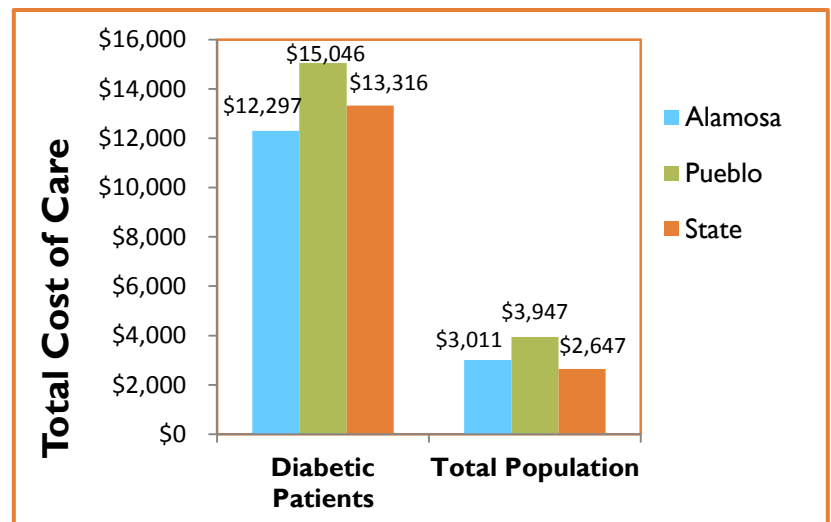
Data Acquisition

- **Additional payers:** Claims from six additional health plans were incorporated in the APCD in early 2013, bringing the total number of payers in the database to 14 and increasing the number of unique lives represented from 2 million at launch to over 3.1 million by the end of 2013. Since that time, two additional health plans have begun submitting their data, and three more have started the pre-submission process. This group of health plans is scheduled to be submitting claims data by end of second quarter 2014, bringing the APCD to full participation by Colorado health plans of significant market size in compliance with the APCD Rule.
- **Medicare data:** In October 2013, the CO APCD began receiving Medicare claims data from the Centers for Medicare & Medicaid Services (CMS.gov). The data is currently being mapped into the APCD, and the Administrator anticipates it will be available on the public website in mid-2014.

Public Reporting

Over the last year, Colorado's APCD continued to mature and become progressively more detailed, enabling the provision of more meaningful public and non-public data to promote cost containment and quality improvement. Since the initial launch of the public website in November of 2012, www.cohealthdata.org has undergone three significant upgrades, each with enhanced reporting capabilities. In general, reports now available on the website provide population-based views of variation in health care utilization and spending by geography, gender and age groups. More detailed snapshot reports are also available that demonstrate variation in utilization rates and facility payments for high-cost imaging services.

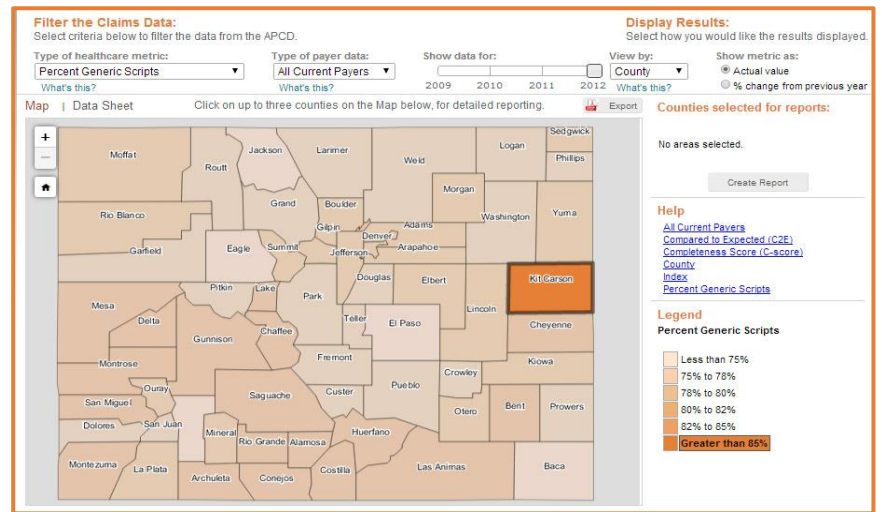
FIGURE 13: DIABETIC VS. TOTAL POPULATION COST OF CARE: STATE, PUEBLO COUNTY AND ALAMOSA COUNTY



Updates to the public website in 2013 included:

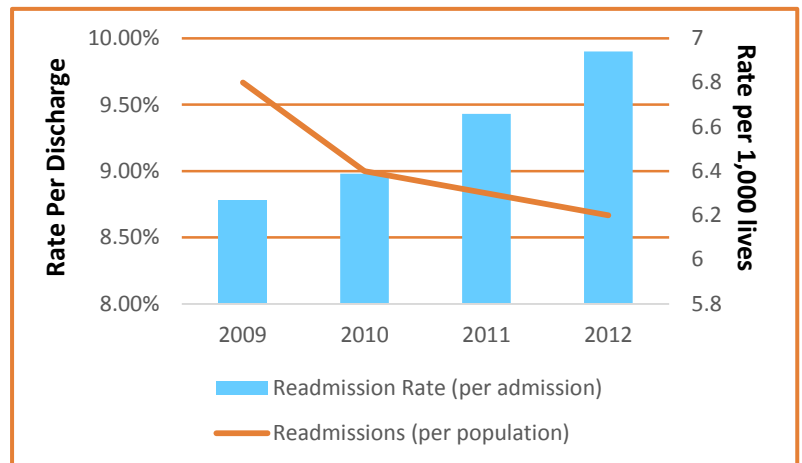
- **February 2013:** Claims from new submitters, enhanced functionality.
- **July 2013:** New metrics and new claims added, along with enhanced functionality including:
 - Compared-to-expected values based on population health
 - Prevalence of and costs to treat chronic disease (asthma and diabetes)
- **December 2013:** At the end of 2013, the public APCD website was refreshed with complete 2012 claims data, offering the ability to evaluate trends over four years (2009-2012). Another major enhancement was the ability to view commercial and Medicaid data separately for all reports. Previous to this release, Medicaid and commercial payer information was combined. With separate Medicaid and commercial payer information, it is now possible to evaluate cost and utilization for these two very different populations. Several metrics were also added, making the website even more informative:

FIGURE 14 : PERCENT GENERIC SCRIPTS FILLED, COMMERCIAL AND MEDICAID



- **Percent generic drug use.** Utilization of brand name v. generic prescriptions is now available by payer type. Figure 14 demonstrates the mapping capability on the website allowing for quick comparisons across counties.

FIGURE 15: COLORADO READMISSIONS PER ADMISSION/POPULATION



- **30-day all-cause readmission rates.** Two different ways of looking at readmission rates are now available: the more traditional readmission rate as a proportion of hospital discharges (similar to the way Medicare rates are currently reported), and a readmissions per 1000 population-based rate. This allows communities two different and distinctly important measures of quality of care for their population. Figure 15 shows the importance of evaluating both the rate per population and per discharge. When looking strictly at rates per discharge, readmissions appear to be worsening; however, rates per population actually show a decline in readmissions.

With the data reporting enhancements listed above, the APCD public website now offers a total of 17 comprehensive reports. The table below demonstrates the depth of the available reports.

TABLE 3: ENHANCED REPORTS NOW AVAILABLE ON WWW.COHEALTHDATA.ORG FOR COMPARISONS FROM 2009-2012 ON A COUNTY AND ZIP CODE LEVEL 3 (FIRST THREE ZIP CODE DIGITS)

Category	Report Available on www.cohealthdata.org
Access	Per capita expenditures associated with emergency department use
	Compared to expected values based on risk-adjusted data
Population	Percentage change in per capita expenditures for health services from year to year
	Utilization of health care services per 1,000 residents (e.g., imaging, emergency department, inpatient hospital, outpatient, professional services)
Total Cost of Care	Annual percentage change in per capita expenditures for primary care services and non-primary care services (hospital, specialty care, etc.)
	Reports on prevalence and costs to treat chronic disease (asthma and diabetes)
Utilization	30-day all cause readmissions (both population based and potentially preventable measures)
	Proportion of inpatient hospital admissions that result in re-admissions within 30 days
	Percent generic drug penetration

Website Utilization

Since the launch of the APCD public website in November 2012, www.cohealthdata.org has had over 15,000 total visits and nearly 10,000 unique visitors (see Figure 16). Users of the website spend an average of more than seven minutes on the site, and only a little over two percent “bounce” to another site immediately after arriving. These metrics indicate that users find the information on the site of interest and are exploring the data available.

Figure 17 depicts the number of reports generated by APCD website users since the launch of the website in late 2012. More than 22,000 reports have been generated in total; with half of the reports accessed being total cost of care reports followed by utilization of health care services (32 percent).

FIGURE 16: WEBSITE ANALYTICS DATA, WWW.COHEALTHDATA.ORG 11/2012-2/2014

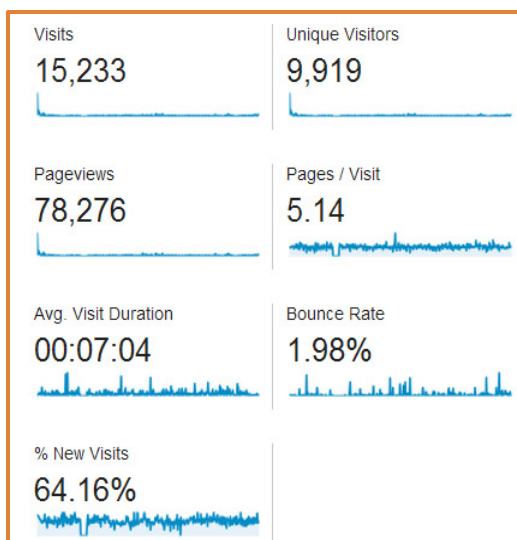
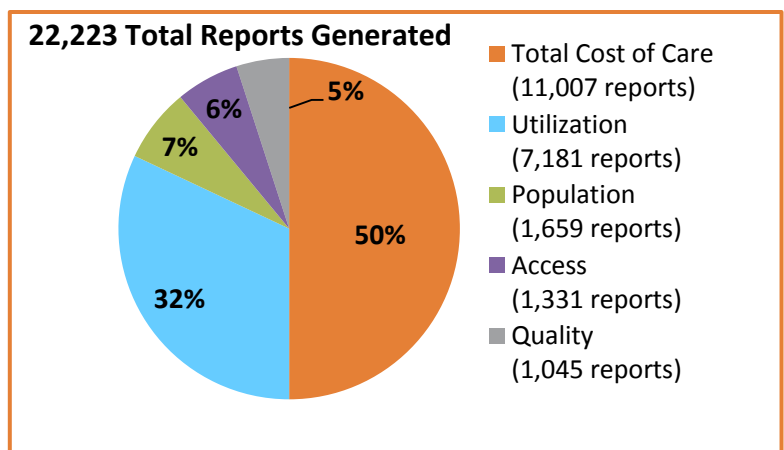


FIGURE 17: BREAKDOWN OF REPORTS GENERATED BY USERS ON WWW.COHEALTHDATA.ORG SINCE NOVEMBER 2012



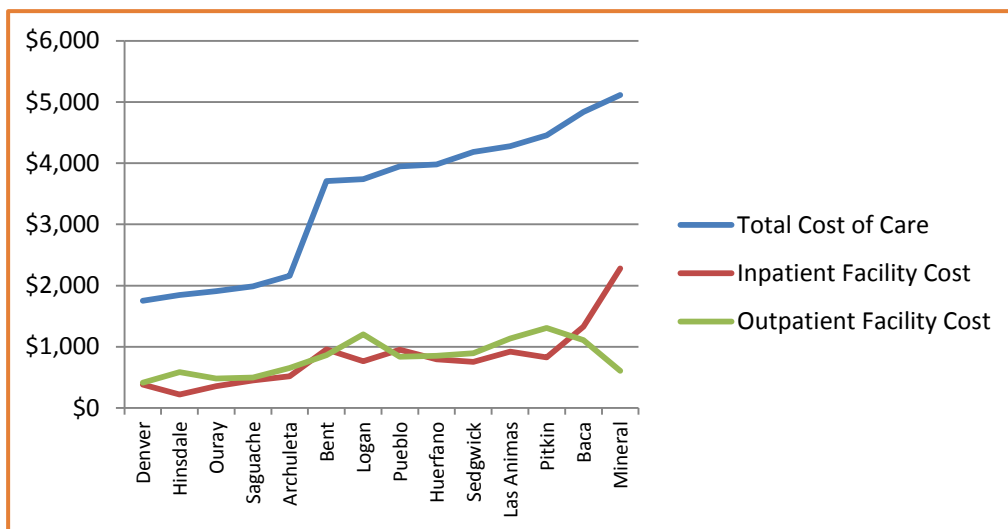
Media Coverage

The launch of the CO APCD website gained both local and national media attention, and over the course of 2013, many media outlets ran stories referencing or using the data in the APCD. The Administrator has seen a significant increase in the number of interview requests, articles and op-ed pieces being distributed regarding the CO APCD. In total, the Colorado APCD has been mentioned and/or data has been used to support more than 40 health care articles and opinion pieces. See [Appendix F](#) for a full list of media coverage.

Most recently, the Colorado APCD has been instrumental in informing discussions regarding variation in health insurance premiums in the state. The Total Cost of Care information on the APCD website has been a source of information when trying to understand high premiums.

Figure 18 was featured in an article published by Health News Colorado in February 2014. The figure demonstrates the wide variation in total cost of care across the state, and inpatient and outpatient facility cost variation.

FIGURE 18: 2012 TOTAL COST OF CARE FOR RESIDENTS IN THE 5 LEAST EXPENSIVE AND 10 MOST EXPENSIVE COLORADO COUNTIES (MEDICAID AND COMMERCIAL PAYERS)
SOURCE: HEALTH NEWS COLORADO WITH DATA EXTRACTED FROM WWW.COHEALTHDATA.ORG



Progress Toward Consumer Price and Quality Comparison Site

In 2013, the Administrator laid the foundation to launch a consumer-oriented website that will provide comparative price and quality information in 2014 (thereby fulfilling one of the APCD's statutory charges). Comparative cost and quality information is currently in development for over 30 common medical procedures. Major efforts have included:

- Evaluating data from disparate payer systems to develop sound business rules to adequately capture total costs associated with a particular health care service.
- Determining which health care procedures to feature on the website.
- De-duplicating and verifying facility identifiers in the claims data, in order to make the resulting website as reliable as possible.
- Designing website to maximize understanding and provide easy-to-use information for consumers.
- Conducting two consumer focus groups to obtain feedback on consumer portal report format, content and usability and incorporated feedback in design and verbiage.

Custom, Non-Public Reports to Support the Triple Aim and APCD Sustainability

Because the APCD receives no state funds, its operations must be sustained through other mechanisms. As described in more detail in “Operations and Sustainability,” the Administrator received four-year start-up funding from The Colorado Health Foundation and The Colorado Trust. However, long-term sustainability depends upon covering costs through charging a fee for custom, non-public datasets and reports.

Providers, purchasers, researchers and other organizations are allowed to purchase limited custom reports and datasets to support the Triple Aim of improving care for individuals, improving health for populations and lowering costs. The APCD Data Release process (see [Appendix C](#)) was established in early 2013 with a rigorous set of standards for approving data requests so that each request meets Triple Aim objectives. The process strictly adheres to HIPAA and HITECH rules for data release to protect patient privacy, and the Administrator may only release claims data on an aggregated, median basis in order to comply with federal anti-trust law. 10 CCR 2505-5-1.200.5, requires that a Data Release Review Committee advise the Administrator regarding requests for data release. The DRRC (see [Appendix G](#) for a list of Committee members) was established in September 2012 and meets on a monthly basis to review data requests. The CO APCD only provides the minimum data elements necessary to accomplish a particular research goal or project, and only fulfills requests when the intended use of the data supports reaching the Triple Aim of better health, better care and lower cost.

During 2013, the Administrator received 28 pre-applications and 12 formal applications from entities across Colorado seeking data to inform innovative health care projects and programs. The APCD Data Release and Review Committee approved multiple requests for custom data sets and reports to improve care and lower costs.

Data Requests and Fulfillment in 2013

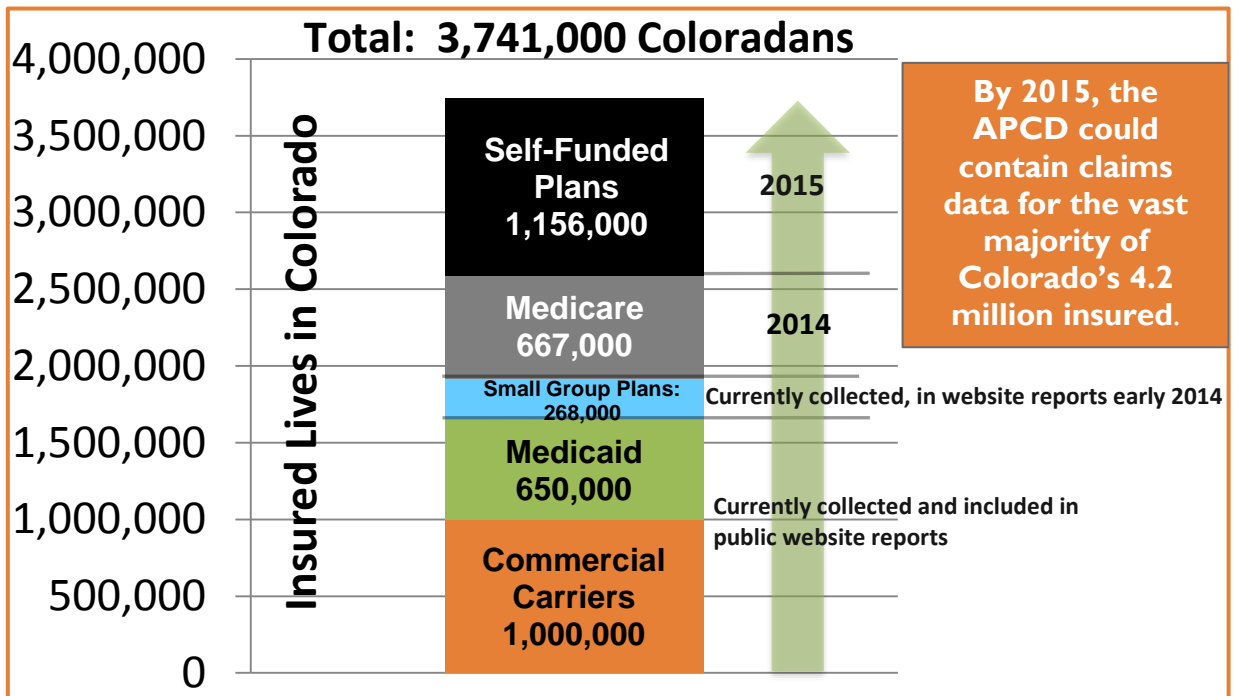
- 9 completed data requests for the following purposes:
 - Using APCD vaccines claims data to assess the completeness of the Colorado Immunization Information System (CIIS).
 - Analyzing claims information related to episodes of care or bundles using the Prometheus methodology.
 - Calculating how a modest increase in reimbursement rates might impact the overall Medicaid budget and the number of O.D's and access to vision care services, especially in rural Colorado.
 - Using CO APCD data to assist family planning service providers with rate setting.
 - Utilizing claims information to inform rate setting and provider network building.
 - Generating analysis to encourage hospitals to pursue payment alternatives and move from fee-for-service to innovative, aligned models that promote improved population health outcomes, care delivery and patient experience consistent with the principles of the Triple Aim.
 - Analyzing claims data for total knee and hip replacements and spinal fusion surgery to evaluate opportunities to implement bundled payment as an alternative to fee-for-service for these procedures and to support negotiations with health plans.
 - Identifying care outcome improvement opportunities by combining medical claims with EMR data for approximately 100,000 Medicaid patients over a four year period.
 - Conducting analytical support to develop bundling/episodes of care.
- 11 data requestors who currently have active pre-applications, including a major hospital system.
- 19 organizations actively communicating with the Administrator to get a better idea of APCD data and the value it can add to their organization.
- 80 total organizations have reached out for information on CO APCD data since April 1, 2013.

III. Plans for 2014 - 15

Data Acquisition

- **Medicare claims:** The Administrator is working with colleagues around the country and Colorado's congressional delegation to secure changes to federal law that will enable us to include Medicare data in our custom, non-public reports. Language has been included in the bipartisan Medicare Sustainable Growth Rate reform bill. If the bill passes before the end of 2014, we anticipate these changes will take effect in 2015.
- **Claims from HMO payers:** Plans such as Kaiser Foundation Health Plan of Colorado and the Denver Health Medical Plan operate a significant portion of their business under capitated models that do not generate claims in the usual sense. Accordingly, these plans have received waivers from the Administrator for payment-related data submissions (although they have been submitting encounter data). Both plans are working in good faith with the Administrator to develop strategies for submitting pricing information to the APCD in 2014, which will bring them into full compliance with APCD rules.
- **Self-funded data:** The Administrator has worked diligently over the last two years to try to secure claims data from self-funded employers. However, the absence of a requirement for those employers' administrators to submit the data has stymied these efforts. Accordingly, the Administrator and HCPF are exploring a rule change to require the submission of self-funded claims data. However, there are conflicting legal precedents about whether such a requirement is allowable under federal law. Colorado's Attorney General is currently reviewing the matter.

FIGURE 19: ANTICIPATED TIMELINE FOR ADDING PAYER CLAIMS TO COLORADO'S ALL PAYER CLAIMS DATABASE



Note: Number of covered lives for each payer is approximate based on publicly available payer data. Timeframe from initial claims data intake to inclusion in data on the CO APCD public website, www.cohealthdata.org, is approximately six months

Public Reporting

The Administrator plans to continue to update and expand on existing reports throughout 2014. Expected enhancements include:

- More in-depth and detailed reporting on variation in utilization and spending patterns for professional and outpatient services, emergency department visits, total knee replacement surgeries and prescription vs. generic drug utilization.
- Consumer portal featuring comparative cost and quality data. Reports will include average prices and quality information for specific procedures on a named facility/provider group basis. This consumer-focused information will allow Coloradans to make value-driven choices about their health care, and will be especially beneficial for the increasing number of individuals/families with high-deductible insurance plans, those with medical savings accounts, and the uninsured.

IV. Operations and Sustainability

Privacy and Security

Maintaining the strongest possible protections for security and privacy of health information is a foundational principle of the design and operation of the CO APCD. CRS 25.5-1-204 requires the CO APCD to comply with all HIPAA privacy and security requirements. All aspects of CO APCD data collection, processing, storage and analysis adhere to the highest standards of security and confidentiality. The data files are constantly protected by overlapping types of security provisions. Layers of security are reinforced through multiple electronic firewalls; controlled access to the physical plant; granting permissions to access a secure website to submit files; and emphasizing privacy and security at every point in the data transfer, storage and analysis processes. The APCD Data Warehouse Manager has never experienced a security breach in its more than 10 years of providing services to payers, hospitals and provider systems (see [Appendix H](#) for more information on the Data Warehouse Manager and data privacy and security).

CO APCD Oversight and Governance

Governance of every aspect of the CO APCD has been established to ensure the CO APCD functions as intended by CRS 25.5-1-204. The oversight structure for the APCD is as follows:

- HCPF appoints the Administrator, which in turn is required by law and contract to strictly adhere to HIPAA, HITECH and related state and federal laws. The Administrator must annually report data requests and uses, and must immediately report any breaches of data to HCPF.
- HCPF promulgates all rules associated with the CO APCD including how data is protected and released.
- A statewide, multi-stakeholder Advisory Committee, reauthorized in 2013 through SB 13-149, makes recommendations to the Administrator for administration of the database.
- A separate Data Release Review Committee (DRRC), established by HCPF rules, develops protocols for data release, reviews requests for CO APCD reports and advises the Administrator on the appropriateness of those requests.
- The Administrator is required to make annual reports to the General Assembly and Governor.
- As a non-profit organization, the Administrator is governed by a board of directors with a fiduciary duty and financial liability related to the organization's operation of the CO APCD.
- Because the CO APCD is funded by grants from the Colorado Health Foundation and The Colorado Trust, the Administrator is required to provide detailed reports on the progress of the CO APCD, a series of grant milestones and an evaluation of the CO APCD's impact.

[Appendix I](#) illustrates the structural oversight for the CO APCD and provides further detail.

Financial Plan for Sustaining Operations

No state funds are allocated to support costs associated with Colorado's APCD. The CO Administrator was therefore required to raise the necessary funds to build and sustain the database. The Administrator received generous grant funding from local foundations through the beginning of 2016 from the following sources for the initial planning and subsequent development, implementation and administration of the CO APCD:

CO APCD Planning:

- Colorado Department of Health Care Policy and Financing – \$400,000, expired
- The Colorado Trust – \$180,000, expired
- The Colorado Health Foundation – \$1.2 million, expired 2013

CO APCD Development and Implementation:

- The Colorado Trust – \$2 million, expiring spring 2016
- The Colorado Health Foundation – \$2.5 million, expiring spring 2016
- Colorado Department of Health Care Policy and Financing (2011/2012) - \$200,000, expired
- Colorado Department of Health Care Policy and Financing (2012/2013) - \$200,000, expired

The annual operating costs to cover the maintenance, continued data onboarding and updates to the APCD public resources are \$2.4 million dollars. Funding to cover these costs beyond 2016 must come from the delivery of customized APCD reports and data sets for organizations meeting the requirements outlined in the Data Release section above. The Administrator is currently ramping up its earned revenue as grant funding phases out, in order to become self-sustainable in two years.

APCD annual operating budget breakdown (\$2.4 million)

- 56% IT support (data warehouse vendor, other contractors)
- 27% personnel
- 6.5% consulting (legal, etc.)
- 4% communications/outreach
- 4% administrative/operating
- 2.5% staff development/meetings/conferences

The Colorado APCD projected annual operating costs are significantly less than other APCDs of similar size which range from \$3.5-\$4 million. In addition, Colorado produces a significant amount of public reporting and also fulfills custom data requests—indicating the lean operation of Colorado's APCD.

Pricing for CO APCD Custom Reports

The Administrator conducted an extensive market analysis in early 2013 to support the development of a pricing model for customized APCD data sets and reports. This pricing is competitive compared to analysis of similar data products available on the market locally and nationally. See Figure 20 for the current APCD data request pricing model.

In 2013, the Administrator filled data requests allowing the APCD to reach our 2013 target and recoup more than \$500,000 in costs.

While the Administrator is confident of the value of the data and the competitiveness of its pricing model, there is an inherent tension in sustaining a public utility such as the APCD through earned revenue. Many would-be public and non-profit data users who need APCD data and reports to help control costs, reduce variation and

improve quality, cannot afford even our greatly discounted rates. In order to ensure affordable access to all appropriate users, it is possible that long-term sustainability for the APCD may require multiple funding sources: earned revenue, foundation funding and some public support.

FIGURE 20: APCD NON-PUBLIC DATA RELEASE PRICING MODEL

Data Products	# of Units Needed	Cost Range	Projected Revenue
Data Custom Reports	10	\$13,000 - \$50,000 Average expected per custom report: 10 at \$30,000	\$300,000.00
Data Sets (De-identified & Limited)	30-55	\$25,000 - \$150,000 Average expected per Data Set: 30 at \$50,000	\$1,500,000.00
Annual Subscriptions	3-6	\$150,000 - \$250,000 Average expected per subscription: 4 at \$150,000	\$600,000.00
Totals	43-64		\$2,400,000.00

Appendix A: CO APCD Receives National Innovation Award

December 12, 2013 | Source: CIVHC | Author: Cari Frank



(Photo left: Tracey Campbell, left, and Jonathan Mathieu, center, accept the award on behalf of CIVHC)

The Center for Improving Value in Health Care (CIVHC) and data partner Treo Solutions received the 2013 Innovation in Data Dissemination Award from the National Association of Health Data Organizations (NAHDO) during its 28th Annual Conference held in Denver, Colorado. The two organizations were recognized for their work creating and evolving the [Colorado All Payer Claims Database \(APCD\)](#), designed to provide transparent healthcare price and utilization information to improve care and lower costs.

CIVHC, a non-profit, non-partisan organization, administers the APCD. Treo Solutions, a leading provider of healthcare data analytics and business intelligence, is CIVHC's APCD data and technology partner.

Since 1986, NAHDO's mission has been dedicated to improving the public availability of healthcare data and information to inform consumer and industry decisions. "NAHDO applauds CIVHC's dedication and collaborative approach to developing an APCD to provide transparent data and information that is beneficial for all Coloradans," said Denise Love, Executive Director, NAHDO. "CIVHC and their technical partner, Treo, exemplify the spirit of this award, which was established by the NAHDO Board in 2009 to recognize the importance of effectively communicating health data to the public."

CIVHC and Treo are in the midst of developing consumer-focused reports that will, for the first time, provide consumers with access to hospital- and provider group-specific price and quality information that will help them shop for healthcare services. By 2015, the Colorado APCD is expected to contain claims data for the vast majority of Colorado's insured population.

"We are honored to receive national recognition from NAHDO for the Colorado APCD. This award reflects and reinforces our state's commitment to using transparent data to empower patients, providers, purchasers and payers to transform our healthcare system," said Edie Sonn, CIVHC's Interim CEO.

"Our company has been honored to be a partner with CIVHC in the creation and growth of the Colorado APCD," said William Kelly, Treo Solutions' President. "Transparency initiatives like this are essential to the success of improving health outcomes while reducing costs. We thank NAHDO for recognizing the importance of transparency and the ground-breaking work being done by the Colorado APCD."

The Colorado APCD was established by legislation in 2009 without state financial support. In 2010 CIVHC was appointed as the administrator. As a non-profit, CIVHC secured private foundation funding to support the development and implementation of the APCD – a model unique relative to most state-run APCDs. In just a few short months from the time of initial claims data intake, CIVHC and Treo Solutions launched the website (www.cohealthdata.org) that provides public access to information on total cost of care and utilization of healthcare services across the state.

Appendix B: CO APCD History, Statute and Milestones

History of Colorado's APCD

The need for meaningful data on quality and cost can be traced back to the work of the Blue Ribbon Commission for Health Care Reform. Their January 2008 report to the General Assembly explicitly recommended the creation of a statewide warehouse combining claims information from public and private payers in order to gain a comprehensive picture of health care costs and utilization in Colorado. That recommendation led to the introduction of HB 10-1330 to establish the CO APCD. HB 10-1330 was subsequently enacted as CRS 25.5-1-204.

Overview of CRS 25.5-1-204

The statute authorizes the Executive Director of HCPF to appoint a broad-based advisory committee that is charged to:

...make recommendations regarding the creation of the framework and implementation plan for a Colorado all-payer claims database for the purpose 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 at all levels of health care.

The statute further directs the Executive Director to appoint an administrator of the database to produce and disseminate reports and data, and grants wide authority for data collection and reporting. The statute also lays out a series of deadlines for achieving key milestones. The legislation makes no provision for state funding for the CO APCD.

See below for the complete CRS.

Statutory Milestones

Developing and implementing the CO APCD began with meeting the requirements identified in CRS 25.5-1-204. The following section outlines key provisions and progress to date.

2010-2012 Milestones

- **Administrator:** HCPF named CIVHC as the Administrator in August 2010.
- **CO APCD Advisory Committee Convened**
 - *Legislative Deadline: August 11, 2010; First Meeting: September 23, 2010*
 - Beginning in September 2010, the Administrator convened this statutorily-required statewide stakeholder group to provide specific guidance on the CO APCD framework and approach.
- **First Report to the Legislature**
 - *Legislative Deadline: March 1, 2011; Completion: February 2011*
 - The CO APCD Advisory Committee submitted its first report to the Governor and General Assembly in February 2011 in advance of the March 1, 2011 statutory deadline.
- **Promulgation of Rules:**
 - *Legislative Deadline: January 1, 2012; Completion: August 24, 2011*
 - Beginning in February 2011, the Administrator led a process of weekly meetings with health plans and other stakeholders to create detailed specifications and timelines for data submission. This input was incorporated into the final version of the data submission guide and the draft rules, including timelines

and other requirements. A final draft of the rules and the data submission guide were submitted for public review in early summer 2011. Consensus-building with health plans, along with guidance from HCPF and the DOI, paved the way for the final adoption of CO APCD rules by HCPF Executive Director Sue Birch on August 24, 2011 (see 10 CCR 250-5-1.200.5). This action was needed to create the CO APCD no later than January 1, 2012.

- **Funding for Creation of the Database:**

- *Legislative Deadline: January 1, 2012; Completion Date: November 15, 2011*
- By statute, the HCPF Executive Director was required to notify the Reviser of Statutes when sufficient funding was available to create the database. This notification occurred on November 15, 2011 in advance of the statutory deadline of January 1, 2012.

No state funds were appropriated for the development or operation of the CO APCD. In order to achieve the statutory milestones for creating and launching the CO APCD, the Administrator secured grants from Colorado foundations. The Administrator gratefully acknowledges The Colorado Trust and the Colorado Health Foundation for their generous support during the initial development and through the spring of 2016 for the implementation phase. The Administrator is responsible for creating a business model to self-sustain the ongoing operations of the CO APCD beyond 2016.

- **Second Report to the Legislature**

- *Legislative Deadline: March 1, 2012; Completion: February 2012*
- The CO APCD Advisory Committee submitted its second report to the Governor and General Assembly in February 2012 in advance of the March 1, 2012 statutory deadline.

- **CO APCD Operational**

- *Legislative Deadline: January 1, 2013; Completion Date:*
 - a. Data Intake: February 1, 2012
 - b. Initial Reporting and Analytics: November 1, 2012

The CO APCD started data intake operations in February 2012 when Treo Solutions, the Data Manager, established secure data intake systems for test claims data submissions from the eight largest commercial health plans and Medicaid. The CO APCD launched public reporting operations on November 1, 2012 with the release of www.cohealthdata.org, a freely accessible website populated with measures and reports based on CO APCD data.

Complete CRS 25.5-1-204. Advisory committee to establish an all-payer health claims database - creation - members - duties - creation of all-payer health claims database - rules - repeal.

- (1) (a) Within forty-five business days after August 11, 2010, the executive director shall appoint an advisory committee to make recommendations regarding the creation of the framework and implementation plan for a Colorado all-payer claims database for the purpose 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 at all levels of health care. The executive director shall appoint an administrator of the database.
- (b) The executive director shall appoint the members of the advisory committee, consisting of the following members:
- (I) A member of academia with experience in health care data and cost efficiency research;
 - (II) A representative of a statewide association of hospitals;

- (III) A representative of an integrated multi-specialty organization;
 - (IV) A representative of physicians and surgeons;
 - (V) A representative of small employers that purchase group health insurance for employees, which representative is not a supplier or broker of health insurance;
 - (VI) A representative of large employers that purchase health insurance for employees, which representative is not a supplier or broker of health insurance;
 - (VII) A representative of self-insured employers, which representative is not a supplier or broker of health insurance;
 - (VIII) A representative of an organization that processes insurance claims or certain aspects of employee benefit plans for a separate entity;
 - (IX) A representative of a nonprofit organization that demonstrates experience working with employers to enhance value and affordability in health insurance;
 - (X) A person with a demonstrated record of advocating health care privacy issues on behalf of consumers;
 - (XI) A person with a demonstrated record of advocating health care issues on behalf of consumers;
 - (XIV) A representative from a community mental health center that has experience in behavioral health data collection;
 - (XV) A representative of pharmacists or an affiliate society;
 - (XVI) A representative of pharmacy benefit managers; and
 - (XVII) Two representatives of nonprofit organizations that facilitate health information exchange to improve health care for all Coloradans.
- (c) The following persons shall serve as ex officio members of the advisory committee:
- (I) The executive director or his or her designee;
 - (II) A representative of the department of personnel and administration;
 - (III) The commissioner of insurance or his or her designee;
 - (IV) The director of the office of information technology or his or her designee; and
 - (V) Two members of the general assembly, one from the majority party and one from the minority party.
- (d) When making appointments to the advisory committee, the executive director shall include at least two members who reside in a rural community with a population of less than fifty thousand or who represent rural interests.
- (e) (I) This subsection (I) is repealed, effective July 1, 2013.
- (II) Prior to the repeal of this subsection (I), the advisory committee shall be reviewed as provided for in section 2-3-1203, C.R.S.
- (2) The advisory committee shall make recommendations to the administrator regarding the database that:
- (a) Include specific strategies to measure and collect data related to health care safety and quality, utilization, health outcomes, and cost;
 - (b) Focus on data elements that foster quality improvement and peer group comparisons;
 - (c) Facilitate value-based, cost-effective purchasing of health care services by public and private purchasers and consumers;
 - (d) Result in usable and comparable information that allows public and private health care purchasers, consumers, and data analysts to identify and compare health plans, health insurers, health care facilities, and health care providers regarding the provision of safe, cost-effective, high-quality health care services;
 - (e) Use and build upon existing data collection standards and methods to establish and maintain the database in a cost-effective and efficient manner;
 - (f) Are designed to measure the following performance domains: Safety, timeliness, effectiveness, efficiency, equity, and patient-centeredness;
 - (g) Incorporate and utilize claims, eligibility, and other publicly available data to the extent it is the most cost-effective method of collecting data to minimize the cost and administrative burden on data sources;
 - (h) Include recommendations about whether to include data on the uninsured;

- (i) Discuss the harmonization of a Colorado database with other states', regions', and federal efforts concerning all-payer claims databases;
 - (j) Discuss the harmonization of a Colorado database with federal legislation concerning an all-payer claims database;
 - (k) Discuss a limit on the number of times the administrator may require submission of the required data elements;
 - (l) Discuss a limit on the number of times the administrator may change the required data elements for submission in a calendar year considering administrative costs, resources, and time required to fulfill the requests; and
 - (m) Discuss compliance with the "Health Insurance Portability and Accountability Act of 1996", Pub.L. 104-191, as amended, and other proprietary information related to collection and release of data.
- (3) The advisory committee shall make recommendations to the executive director to determine how the ongoing oversight of the operations of the all-payer health claims database should function, including where the database should be housed.
- (4) The administrator shall seek funding for the creation of the all-payer health claims database and develop a plan for the financial stability of the database. On or before March 1, 2011, the administrator shall report to the governor and the general assembly on the status of the funding effort and on the status of the recommendations of the advisory committee. The report shall include the final data elements recommended by the advisory committee, the final provisions contemplated to comply with the "Health Insurance Portability and Accountability Act of 1996", Pub.L. 104-191, as amended, and any other final recommendations that are ready at the time of the report. If sufficient funding is received through gifts, grants, and donations on or before January 1, 2012, as determined by the executive director, the administrator shall, in consultation with the advisory committee, create the Colorado all-payer claims database. The Colorado all-payer claims database shall be operational no later than January 1, 2013.
- (5) If sufficient funding is received, the executive director shall direct the administrator to create the database and the administrator shall:
- (a) Determine the data to be collected from payers and the method of collection, including mandatory and voluntary reporting of health care and health quality data. If the administrator requires mandatory reporting, CoverColorado, created in part 5 of article 8 of title 10, C.R.S., shall be included in the mandatory reporting requirements.
 - (b) Seek to establish agreements for voluntary reporting of health care claims data from health care payers that are not subject to mandatory reporting requirements in order to ensure availability of the most comprehensive and system wide data on health care costs and quality;
 - (c) Seek to establish agreements or requests with the federal centers for Medicare and Medicaid services to obtain Medicare health claims data;
 - (d) Determine the measures necessary to implement the reporting requirements in a manner that is cost-effective and reasonable for data sources and timely, relevant, and reliable for consumers, public and private purchasers, providers, and policymakers;
 - (e) Determine the reports and data to be made available to the public with recommendations from the advisory committee in order to accomplish the purposes of this section, including conducting studies and reporting the results of the studies;
 - (f) Collect, aggregate, distribute, and publicly report performance data on quality, health outcomes, health disparities, cost, utilization, and pricing in a manner accessible for consumers, public and private purchasers, providers, and policymakers;
 - (g) Protect patient privacy in compliance with state and federal medical privacy laws while preserving the ability to analyze data and share with providers and payers to ensure accuracy prior to the public release of information;
 - (h) Report to the governor and the general assembly on or before March 1 of each year on the status of

implementing the database and any recommendations for statutory or regulatory changes, with input from the advisory committee or its successor governance entity, that would advance the purposes of this section;

(i) Provide leadership and coordination of public and private health care quality and performance measurements to ensure efficiency, cost-effectiveness, transparency, and informed choice by consumers and public and private purchasers.

(6) The administrator, with input from the advisory committee:

(a) Shall incorporate and utilize publicly available data other than administrative claims data if necessary to measure and analyze a significant health care quality, safety, or cost issue that cannot be adequately measured with administrative claims data alone;

(b) Shall require payer data sources to submit data necessary to implement the all-payer claims database;

(c) Shall determine the data elements to be collected, the reporting formats for data submitted, and the use and reporting of any data submitted. Data collection shall align with national, regional, and other uniform all-payer claims databases' standards where possible.

(d) May audit the accuracy of all data submitted;

(e) May contract with third parties to collect and process the health care data collected pursuant to this section. The contract shall prohibit the collection of unencrypted social security numbers and the use of the data for any purpose other than those specifically authorized by the contract. The contract shall require the third party to transmit the data collected and processed under the contract to the administrator or other designated entity.

(f) May share data regionally or help develop a multi-state effort if recommended by the advisory committee.

(7) The all-payer health claims database shall:

(a) Be available to the public when disclosed in a form and manner that ensures the privacy and security of personal health information as required by state and federal law, as a resource to insurers, consumers, employers, providers, purchasers of health care, and state agencies to allow for continuous review of health care utilization, expenditures, and quality and safety performance in Colorado;

(b) Be available to state agencies and private entities in Colorado engaged in efforts to improve health care, subject to rules promulgated by the executive director;

(c) Be presented to allow for comparisons of geographic, demographic, and economic factors and institutional size;

(d) Present data in a consumer-friendly manner.

(8) The collection, storage, and release of health care data and other information pursuant to this section is subject to the federal "Health Insurance Portability and Accountability Act of 1996", Pub.L. 104-191, as amended.

(9) The executive director shall promulgate rules as necessary to implement this section, which rules shall include the assessment of a fine for a payer required to submit data that does not comply with this section. Any fines collected shall be deposited in the all-payer health claims database cash fund, which is hereby created in the state treasury. The moneys in the fund shall be appropriated to the department of health care policy and financing for the purpose of maintaining the all-payer health claims database. The moneys in the fund shall remain in the fund and not revert to the general fund or any other fund at the end of any fiscal year.

(10) This section is repealed, January 1, 2012, unless the executive director notifies the revisor of statutes on or before such date that sufficient funding to create the database, as determined by the executive director, advisory committee, and administrator, has been received through gifts, grants, and donations.

(11) If at any time, there is not sufficient funding to finance the ongoing operations of the database, the database shall cease operating and the advisory committee and administrator shall no longer have the duty to carry out the functions required pursuant to this section. If the database ceases to operate, the data submitted shall be destroyed or returned to its original source.

Source: L. 2010: Entire section added, (HB 10-1330), ch. 299, p. 1406, § 1, effective August 11.

Appendix C: Data Release Review Process

Data Release Process: An entity interested in obtaining data from the CO APCD is required to submit a written application that describes the purpose of the project, the methodology, the qualifications of the organization and the project staff, capacity to maintain data confidentiality and security, and experience with similarly complex data sets. The application must include justification for each data element that is needed for the project.

The Data Release Review Committee (DRRC) reviews applications and advises the CO APCD Administrator whether release of the data is consistent with the statutory purpose of the CO APCD, contributes to efforts to improve health care for Colorado residents, and complies with the requirements of HIPAA, HITECH and DOJ guidelines received by experts.

The data release processes established by the CO APCD Administrator contemplates the following types of data release:

- A custom report or a de-identified data set as defined under HIPAA, especially 45 CFR §164.514(a). De-identification by CIVHC and the CO APCD will be achieved by removing all 18 identifiers enumerated by the HIPAA de-identification standards at 45 CFR § 164.514(b)(2). Protected data elements will never appear in a de-identified file; all dates are shown as year only; zip codes will be reduced to three digits; if a zip code has fewer than 20,000 residents it will show as “000.”
- A Limited Data Set as defined under HIPAA, especially 45 CFR § 164.514(e). Limited Data Sets may not include name, street address, or Social Security Number. Dates related to the individual may be included. Users of the Limited Data must apply a minimum cell size rule (also known as a “cell suppression rule”) in any reports or outputs to prevent identifying individuals by inference.
- An Identified Data set is any identifiable PHI beyond a Limited data set.

As the chart below illustrates, the CO APCD collects only eight of the 18 direct and indirect identifiers, as defined under the HIPAA regulations. De-identified data and the Limited Data Set files will make use of only two of those eight collected data elements: zip code and date fields. Neither the De-identified data nor a Limited Data Set will ever include a patient’s name, street address, Social Security or other directly identifiable data.

For more details regarding privacy, security, and the data release process, see [Appendix J](#).

FIGURE 21: HOW THE COLORADO APCD DE-IDENTIFIED DATA AND LIMITED DATA SETS TREATS HIPAA'S 18 DIRECT PATIENT IDENTIFIERS

Data Element	De-Identified Data	Limited Data Set
1. Names	Not available	Not available
2. All geographical identifiers smaller than a state	First 3 digits of zip code ⁴	5 digits
3. Dates directly related to an individual⁵	YY	DDMMYY
4. Phone numbers	Not collected	Not collected
5. Fax numbers	Not collected	Not collected
6. Email addresses	Not collected	Not collected
7. Social Security numbers	Not available	Not available
8. Medical record numbers	Not available	Not available
9. Health insurance beneficiary numbers	Not available	Not available
10. Account numbers	Not available	Not available
11. Certificate/license numbers⁶	Not available	Not available
12. Vehicle identifiers and serial numbers, including license plate numbers;	Not collected	Not collected
13. Device identifiers and serial numbers;	Not collected	Not collected
14. Web Uniform Resource Locators (URLs)	Not collected	Not collected
15. Internet Protocol (IP) address numbers	Not collected	Not collected
16. Biometric identifiers, including finger, retinal and voice prints	Not collected	Not collected
17. Full face photographic images and any comparable images	Not collected	Not collected
18. Any other unique identifying number, characteristic, or code except the unique code assigned by the investigator to code the data	Not collected	Not collected

⁴ Reporting by the first three digits of a zip code is permitted in de-identified data if the geographic unit formed by combining all zip codes with the same initial three digits contains more than 20,000 people. This analysis will be performed prior to releasing any Colorado CO APCD de-identified data.

⁵ De-identified data may contain age ranges, for example, 40-45 years of age, or may include month and year of birth or age on date of service.

⁶ Member certificate/license numbers are not collected. Physicians' license numbers are collected.

Appendix D: CO APCD Stakeholder Outreach Groups

Prior to the initial launch of the APCD in 2012, the Administrator conducted extensive stakeholder outreach to gather information on the types of APCD reports that would be of most value to them. A synopsis of the information gathered is below.

Data submitters, including Colorado-based and national health plans, participated in discussions with CO APCD staff from the start of the project. Notably, the Colorado Association of Health Plans (CAHP) convened numerous meetings with health plans to discuss the proposed data submission requirements and related rule-making process, and served as a clearinghouse for comments and questions. These groups are currently participating in a process to make necessary changes to the current data submission requirements, including provisions that will facilitate the submission of self-funded data to the CO APCD beginning in 2014. The Administrator has begun outreach to self-insured employers, and to the administrative services only (ASO) plans and third-party administrators (TPAs) that manage their health plans, about the process for securing claims submissions from this important market segment.

Health providers were consulted through provider associations, including the Colorado Medical Society, the Colorado Hospital Association and numerous specialty associations. These groups provided thoughtful feedback on the potential uses of CO APCD products. In 2014, these groups will continue to be a focus of CO APCD outreach efforts as the Administrator determines processes for sharing and vetting of comparative cost, utilization and quality information on a named payer, facility and provider group basis prior to public release.

Colorado's **Health Information Exchanges**: Colorado Regional Health Information Organization (CORHIO) and Quality Health Network (QHN) have provided important and ongoing input into the development of the CO APCD. These organizations have had discussions on leveraging common data elements and have explored opportunities for collaboration and information sharing that could help Coloradans improve health care and lower costs.

Consumer input is provided via members of the CO APCD Advisory Committee, the Data and Transparency Committee, the Data Release Review Committee, and through public comment. In addition, the Administrator met with numerous consumer advocacy organizations such as the Colorado Consumer Health Initiative, Health Advocates Alliance and others for targeted dialogue. The Administrator will continue to obtain consumer feedback during the development of a consumer-facing interactive website in 2014.

In 2014, the CO APCD Administrator will continue to provide ongoing opportunities for all stakeholders to participate and offer feedback through quarterly meetings of the CO APCD Advisory Committee and through ongoing targeted outreach to various stakeholder groups.

Appendix E: Members of the CO APCD Advisory Committee

Name	Affiliation	Role (As specified in legislation)
Scott Anderson	Vice President, Professional Activities, Colorado Hospital Association	Statewide association of hospitals
Justin Aubert	Chief Financial Officer, Quality Health Network	Non-profit organizations that facilitates health information exchanges to improve health care for all Coloradans
Lalit Bajaj	Associate Professor of Pediatrics, Physician, University of Colorado/The Children's Hospital	Academia with experience in health care data and cost efficiency research
Brian Braun	CFO, of CORHIO	Non-profit organizations that facilitates health information exchanges to improve health care for all Coloradans
Kyle Brown	Senior Health Policy Analyst	Consumer health care advocates
Tracey D. Campbell	Dir. of APCD, CIVHC	The Executive Director or His or Her Designee, Serving as an Ex Officio Member
Matt Cassady	Program Integrity Manager, Delta Dental of Colorado	Dental insurers
Cindy Corwin	Total Rewards Manager, Division of Human Resources	Department of Personnel and Administration
Jo Donlin*	Director of External Affairs, Division of Insurance	Colorado Division of Insurance
Richard Doucet	Chief Executive Officer, Community Reach Center	Community mental health centers with experience in behavioral health data collection
Susan Eusser	Vice President / Administration, Young Americans Center for Financial Education	Small employers that purchase group health insurance for employees
Jack Feingold	WellDyneRx	Pharmacy benefit managers
Kristi Gjellum	Account Executive & Practice Lead, Employee Benefits, NPN 1623974/ IMA, Inc.	Organizations that process insurance claims or certain aspects of employee benefit plans for a separate entity
Marjie Harbrecht	Chief Executive Officer/Physician, Health TeamWorks	Physicians and surgeons
Bob Jamieson	Boulder Valley School District	Self-insured employers
Tracy Johnson	Director, Health Care Reform Initiatives, Denver Health and Hospital Authority	Large employers that purchase group health insurance for employees
Janak Joshi	State House	Colorado General Assembly
Debra Judy	Policy Director, Colorado Consumer Health Initiative	Consumer health care advocates
Val Kalnins	Executive Director, Colorado Pharmacists Society	Pharmacists or an affiliate society
John Kefalas	State Representative, State of Colorado	Colorado General Assembly

Philip Lyons	Director of Regulatory Affairs, United Healthcare	For profit health insurers
David Ornelas	Administrator, Flatirons Surgery Center	A statewide Association of Ambulatory surgical Centers
Wes Skiles	Lobbyist, Kaiser Permanente	Integrated multi-specialty organizations
Robert Smith	BTE/Prometheus Project Director, Colorado Business Group on Health	Non-profit organizations that demonstrate experience working with employers to enhance value and affordability in health insurance
Daniel Tuteur	Chief Strategy Officer, Colorado HealthOP	A representative of health insurers - non- profit
Chris Underwood	Rates Manager, Department of Health Care Policy and Financing	Department of Health Care Policy and Financing
Chris Wells	State Health IT Coordinator & Program Director, Governor's Office of Information Technology	Governor's Office of Information Technology
Nathan Wilkes	Owner/Principal Consultant, Headstorms, Inc.	Consumer health care advocate with experience in privacy issues

*Denotes state government representatives, ex-officio members

¹Denotes appointees who have resigned or switched jobs. New appointees have been deferred because of the CO APCD Advisory Committee legislative sunset process and until a successor entity is identified.

Appendix F: CO APCD Media Mentions and Publications

Date	Publication	Article Title	Link
4/27/2012	Denver Post	Guest Commentary: The All Payer Claims Database will Help Coloradans	http://www.denverpost.com/ci_20489912/guest-commentary-all-payer-claims-database-will-help
5/4/2012	Colorado Trust Blog	Health Care Database Receives Implementation Support	http://www.coloradotrust.org/news/blog/blog-entry/health-care-database-receives-implementation-support?print=true
11/1/2012	Denver Business Journal	Website aims to bring down Colorado health care costs	http://www.bizjournals.com/denver/news/2012/11/01/website-aims-to-bring-down-colorado.html
11/1/2012	Denver Post	Harsh new spotlight on Colorado health prices promises change	http://www.denverpost.com/breakingnews/ci_21906872/harsh-new-spotlight-colorado-health-prices-promises-change
11/1/2012	Health Policy Solutions	New data tool finds health costs vary wildly	http://www.healthpolicysolutions.org/2012/11/01/new-data-tool-finds-health-costs-vary-wildly/
11/1/2012	Modern Health Care	New Colo. claims database offers look at procedure prices	http://www.modernhealthcare.com/article/20121101/NEWS/311019946?AllowView=VW8xUmo5Q2ITcVJOb1gzb0tNN3RLZ0h0MWg5SVgra3NZRzROR3I0WVRMVGFWZjBBRWxiNUtpQzMyWmFxNTMwVWUpiaVW4=&utm_source=link-20121101-NEWS-311019946&utm_medium=email&utm_campaign=hits
11/1/2012	Health Business Blog	All Payer Claims Database launches in Colorado	http://healthbusinessblog.com/2012/11/01/all-payer-claims-database-launches-in-colorado/
11/1/2012	Colorado Public News	Healthcare pricing information edges closer	http://www.cpt12.org/news/index.php/posts/healthcare-pricing-information-edges-closer/
11/2/2012	AHIP Coverage	Denver Post: New Database Will Shine a Harsh Spotlight on Health Price Differences	http://www.ahipcoverage.com/2012/11/02/denver-post-new-database-will-shine-a-harsh-spotlight-on-health-price-differences/
11/2/2012	Kaiser Health News	The Price Is Right There In Front Of You, In Colorado At Least	http://capsules.kaiserhealthnews.org/index.php/2012/11/the-price-is-right-there-in-front-of-you-in-colorado-at-least/#more-14522
11/2/2012	iHealth Beat	New Colorado Database Offers Cost Information for Health Care Services	http://www.ihealthbeat.org/articles/2012/11/2/new-colorado-database-offers-cost-information-for-health-care-services#ixzz2BP3vTGz
11/2/2012	NADHO	Colorado's All Payer Claims Database Now Available to Support Improving Care and Reducing Costs in Colorado	https://www.nahdo.org/node/432
11/5/2012	Occupy Healthcare	The Quantified State	http://occupyhealthcare.net/2012/11/the-quantified-state/
11/6/2012	Health Policy Solutions	Opinion: Data and quality measures essential for better health care	http://www.healthpolicysolutions.org/2012/11/02/opinion-data-and-quality-measures-essential-for-better-health-care/
11/9/2012	Denver Business Journal	New database will provide valuable health care cost info	http://www.bizjournals.com/denver/print-edition/2012/11/09/new-database-will-provide-valuable.html

11/24/2012	Grand Junction Sentinel	High private insurance costs, excessive ER use plague Mesa County	http://www.gisentinel.com/news/articles/private-insurance-costs-not-keeping-pace-with-publ1#ULPjElXJPIA.twitter
11/28/2012	SAS blog	All-Payer Claims Databases set stage for data-driven healthcare and big analytics	http://blogs.sas.com/content/statelocalgov/2012/11/28/all-payer-care-databases-set-stage-for-data-driven-healthcare-and-big-analytics/?utm_source=dlvr.it&utm_medium=twitter
1/30/2013	Health Policy Solutions	Opinion: All Payer Claims Database designed to reduce costs, improve health care	http://www.healthpolicysolutions.org/2013/01/30/opinion-all-payer-claims-database-designed-to-reduce-costs-improve-health-care/
2/13/2013	Government Health IT	APCDs in Demand Under Health Reform, HIEs	http://www.govhealthit.com/news/apcds-see-demand-under-health-reform-along-hies
3/6/2013	Health Policy Solutions	Opinion: Getting patients to choose a Honda over a BMW	http://www.healthpolicysolutions.org/2013/03/06/opinion-getting-patients-to-choose-a-honda-over-a-bmw/
5/1/2013	Project Health Colorado Blog	Getting Information on the Cost of Health Care Procedures and Services	http://www.projecthealthcolorado.org/cost-of-healthcare-procedure-services
5/15/2013	Health Policy Solutions	Opinion: Making sense of variation in health care pricing	http://www.healthpolicysolutions.org/2013/05/15/opinion-making-sense-of-variation-in-health-care-pricing/
5/24/2013	Denver Post	Hospital charges need a fix	http://www.denverpost.com/ci_23310741/hospital-charges-need-fix
6/19/2013	Health Policy Solutions	Protecting Colorado health data while making costs transparent	http://www.healthpolicysolutions.org/2013/06/19/opinion-protecting-colorado-health-data-while-bringing-down-costs/
12/4/2013	FierceHealthPayer.com	Payer claims transparency: Essential or counterproductive?	http://www.fiercehealthpayer.com/story/healthcare-cost-transparency-essential-or-counterproductive/2013-12-04
12/6/2013	Post Independent	Website Data Reveals Gap Between Health Costs	http://www.postindependent.com/news/9188883-113/county-health-state-garfield
12/6/2013	Treo Solutions Blog	Considering an All-Payer Claims Database? Six Core Elements of APCD Legislation	http://www.treosolutions.com/blog/2013/12/considering-all-payer-claims-database-six-core-elements-apcd-legislation
12/16/2013	Aspen Daily News	PitCo health care spending near highest in state	http://www.aspendailynews.com/section/home/160497
1/2/2014	4-traders.com	2013 Innovation in Data Dissemination Award Presented to Treo Solutions & the Center for Improving Value in Health Care	http://www.4-traders.com/news/2013-Innovation-in-Data-Dissemination-Award-Presented-to-Treo-Solutions--the-Center-for-Improving-V--17742873/
1/2/2014	Yahoo Finance	2013 Innovation in Data Dissemination Award Presented to Treo Solutions & the Center for Improving Value in Health Care	http://finance.yahoo.com/news/2013-innovation-data-dissemination-award-153600225.html

1/8/2014	Treo Solutions Blog	APCD Data Collection: Common Issues and Solutions	http://www.treosolutions.com/blog/2014/01/apcd-data-collection-common-issues-and-solutions
10/30/2013	Summit Daily	High Country cost of health care, Part 1: Affordable Care Act plans in Summit County aren't so affordable	http://www.summitdaily.com/news/8698341-113/county-care-health-insurance
10/31/2013	Summit Daily	High Country cost of health care, Part 2: Why is medical treatment so expensive	http://www.summitdaily.com/news/8715182-113/care-hospital-health-hospitals
2/3/2014	Kaiser Health News	The 10 Most Expensive Insurance Markets In The U.S.	http://www.kaiserhealthnews.org/Stories/2014/February/03/most-expensive-insurance-markets-obamacare.aspx
2/3/2014	Market Watch- The Wall Street Journal	The 10 most expensive areas to buy health insurance in the U.S.	http://blogs.marketwatch.com/health-exchange/2014/02/03/the-10-most-expensive-areas-to-buy-health-insurance-in-the-u-s/
2/4/2014	Health News Colorado	Garfield County may sue, accuses state of rubberstamping insurance lobbyists' plan	http://www.healthnewscolorado.org/2014/02/04/garfield-county-may-sue-accuses-state-of-rubberstamping-insurance-lobbyists-plan/?utm_source=Health+News+Colorado&utm_campaign=cd4453e6df-0204142_4_2014&utm_medium=email&utm_term=0_12ed436cd7-cd4453e6df-220961833
2/4/2014	Telluride Daily Planet	County residents pay less for health insurance than other Colorado ski resort areas	http://www.telluridenews.com/articles/2014/02/07/news/doc52f41a1f50af6794061840.txt
2/9/2014	Denver Post	Colorado mountain towns pay highest health premiums in U.S.	http://www.denverpost.com/news/ci_25095594/colorado-mountain-towns-pay-highest-health-premiums-u
2/12/2014	Denver Business Journal	Long-distance medicine draws patients	http://m.bizjournals.com/denver/print-edition/2014/02/14/cover-story-a-bad-break-for-colorado.html?ana=e_den_rdup&s=newsletter&ed=2014-02-14&r=full
2/19/14	National Public Radio	Elusive Goal: A Transparent Price List for Health Care	http://www.npr.org/blogs/health/2014/02/12/276001379/elusive-goal-a-transparent-price-list-for-health-care
CIVHC Publications			
4/27/2012	CIVHC Voices on Value	The All Payer Claims Database will Help Coloradans	http://civhc.org/Voices-On-Value/April-2012/The-All-Payer-Claims-Database-will-Help-Coloradans.aspx/
5/12/2012	CIVHC Voices on Value	The All Payer Claims Database: Tools and Transparency to Make Informed Health Care Choices	http://civhc.org/Voices-On-Value/March-2012/The-All-Payer-Claims-Database--Tools-and-Transpare.aspx/
5/22/2012	CIVHC Voices on Value	Shedding Some Much Needed Light on the Health Care Market	http://civhc.org/Voices-On-Value/May/Shedding-Some-Much-Needed-Light-on-the-Health-Care.aspx/

6/6/2012	CIVHC Voices on Value	No Magic Bullet for Health Care Reform	http://civhc.org/Voices-On-Value/June-2012/No-Magic-Bullet-for-Health-Care-Reform.aspx/
11/6/2012	CIVHC Voices on Value	All Payer Claims Database Debut Supports Colorado's Health Care Journey	http://civhc.org/Voices-On-Value/November-2012/All-Payer-Claims-Database-Debut-Supports-Colorado%E2%80%99.aspx/
11/6/2012	CIVHC Voices on Value	Data and Quality Measures Essential for Better Health Care	http://civhc.org/Voices-On-Value/November-2012/Data-and-Quality-Measures-Essential-for-Better-Hea.aspx/
11/9/2012	CIVHC Voices on Value	New Database will Provide Valuable Health Care Cost Info	http://civhc.org/Voices-On-Value/November-2012/New-Database-will-Provide-Valuable-Health-Care-Cos.aspx/
12/3/2012	CIVHC Voices on Value	Common Post-Launch All Payer Claims Database Questions	http://civhc.org/Voices-On-Value/December-2012/Answering-Common-Colorado-All-Payer-Claims-Databas.aspx/
12/3/2012	CIVHC Voices on Value	Colorado's APCD Receives Local and National Attention	http://civhc.org/News-Events/News/Colorado-s-APCD-Receives-Local-and-National-Covera.aspx/
1/7/2013	CIVHC Voices on Value	Colorado's HIEs and APCD: Two Important Data Sources for Triple Aim Advancement	http://civhc.org/Voices-On-Value/January-2013/Why-Colorado-Needs-Both-Health-Information-Exchang.aspx/
1/8/2013	CIVHC Voices on Value	Accessing the Power of Colorado's All Payer Claims Database	http://civhc.org/Voices-On-Value/January-2013/Accessing-the-Power-of-Colorado-s-All-Payer-Claims.aspx/
1/9/2013	CIVHC Voices on Value	Crunch Time in Health Care	http://civhc.org/Voices-On-Value/January-2013/Crunch-Time-in-Health-Care.aspx/
2/5/2013	CIVHC Voices on Value	Tipping Point in Health Care?	http://civhc.org/Voices-On-Value/February-2013/Tipping-Point-in-Health-Care-.aspx/
3/6/2013	CIVHC Voices on Value	Getting Patients to Choose a Honda Over a BMW	http://civhc.org/Voices-On-Value/March-2013/Getting-Patients-to-Chose-a-Honda-Over-a-BMW.aspx/
3/6/2013	CIVHC Voices on Value	CIVHC Celebrates Five Year Anniversary and New Staff	http://civhc.org/Voices-On-Value/March-2013/CIVHC-Celebrates-Five-Year-Anniversary-and-New-Sta.aspx/
4/3/2013	CIVHC Voices on Value	Out of Pocket Cost Transparency for Elective Procedures Can Influence Patients Behavior	http://civhc.org/Voices-On-Value/April/Out-of-Pocket-Cost-Transparency-for-Elective-Proce.aspx/
4/3/2013	CIVHC Voices on Value	Fueling the Need for Price Transparency	http://civhc.org/Voices-On-Value/April/Fueling-the-Need-for-Price-Transparency.aspx/
5/8/2013	CIVHC Voices on Value	New CO APCD Release Reveals More Cost Variation	http://civhc.org/Voices-On-Value/May-2013/New-CO-APCD-Release-Reveals-More-Cost-Variation.aspx/
6/6/2013	CIVHC Voices on Value	Having Data Isn't Enough: It's About Using Data to Improve Performance	http://civhc.org/Voices-On-Value/June-2013/Having-Data-Is-Not-Enough.aspx/

6/19/2013	CIVHC Voices on Value	Protecting Colorado Health Data While Making Costs Transparent	http://civhc.org/Voices-On-Value/June-2013/The-Colorado-APCD--A-Private,-Secure-Resource-to-S.aspx/
7/10/2013	CIVHC Voices on Value	One Year Milestone Celebrations	http://civhc.org/Voices-On-Value/July-2013/One-Year-Milestone-Celebrations.aspx/
1/9/2014	CIVHC Voices on Value	CO APCD Top Ten List 2013	http://civhc.org/Voices-On-Value/January-2014/CO-APCD-Top-Ten-List-2013.aspx/
2/8/2014	CIVHC Voices on Value	Answering Consumer Questions on Health Care Costs	http://civhc.org/Voices-On-Value/May-2013/Answering-Consumer-Questions-on-Health-Care-Costs.aspx/

Appendix G: Data Release Review Committee Members

Name	Title & Organization	Representation
Jonathan Mathieu	Director of Data & Research, CIVHC	Committee Chair
Alma Jackson	Associate Professor, Loretto Heights School of Nursing, Regis University	Non-Physician Provider
Scott Anderson	Vice President, Professional Activities, Colorado Hospital Association	Hospital
Ako Quammie	Director of Information Systems, Integrated Physicians Network	Physician Provider
Mark Miller	Senior Manager of Business Intelligence, Kaiser Permanente	Payer (nonprofit)
VACANT		Payer
Rene Horton	Business Analysis Section Manager, CO Department of Health Care Policy and Financing	Public Payer
Nathan Wilkes	Owner/Principal Consultant, Headstorms, Inc.	Consumer Perspective
Bob Semro	Health Policy Analyst, The Bell Policy Center	Consumer Perspective
Amy Downs	Senior Director for Policy and Analysis, Colorado Health Institute	Non-Academic Research Perspective
Kavita Nair	Associate Professor, Pharmaceutical Sciences Program, University of Colorado	Academic Research Perspective

Appendix H: Data Warehouse Manager and Privacy and Security

Data Warehouse Manager

In 2012, the CO APCD Advisory Committee, with input from subcommittees and local and national experts, developed warehousing, privacy/security and analytic/reporting requirements consistent with the intent of the HCPF statute. In 2011, the Administrator contracted with Treo Solutions, a data management vendor. Treo Solutions was selected as the best vendor to meet the following key requirements:

- Demonstrated expertise in data privacy and security protection;
- Strong technical capabilities and experience with both public (Medicaid and Medicare) and commercial payers;
- The competitive cost of the proposed technology solution;
- The ability for the Colorado APCD to maintain ownership of intellectual capital; and
- Vision for an evolving approach to developing reports that are consistent with the scope of the language in the CO APCD statute.

In its more than 10 years of experience managing large volumes of data and serving many organizations around the country, Treo Solutions has never experienced a security breach.

In 2012, Treo worked in partnership with the Administrator to develop the infrastructure for the CO APCD's extensive claims warehouse and analytic/reporting capabilities, while consistently ensuring the privacy and security of health information. Extensive work with the payers was necessary to ensure data submission deadlines were met, waivers were submitted and approved when appropriate, and data submitted met the guidelines outlined in the data submission guide. Treo received initial test data from Medicaid and the eight largest commercial payers March 31, and in eight short months developed a sophisticated interactive reporting platform available publicly through www.cohealthdata.org.

In 2013 the APCD grew to include data from the largest 14 payers including Medicaid data from HCPF; representing over 2.5 million covered lives in Colorado. In 2014 Treo solutions will onboard Medicare data obtained under the State Agency designation. This will add over 650,000 lives.

All data transmissions occur over secure lines; accordingly, there is no opportunity for readable data to be downloaded on to discs or hard drives from outside the warehouse. The CO APCD does not permit access to the files in the original form as submitted by health plans. The CO APCD Data Warehouse Manager has expertise in providing secure solutions that comply with HIPAA, the HITECH Act, and Federal Information Processing Standards as well as conforming to other standards published by the National Institute of Standards and Technology. The Data Warehouse Manager partners with a security advisory firm that conducts quarterly "hacker" simulation testing and annual review of all the company's data security operations, policies and procedures. The Colorado CO APCD also requires regular third party security operations audits. The Data Warehouse Manager uses state of the art encryption, biometrics and intrusion prevention and detection technologies to secure its facilities.

Data Security: When carriers submit files to the CO APCD, the datasets are encrypted in transit and sent over a secure connection to the CO APCD Data Warehouse Manager. This connection is limited to a pre-determined list of users and IP addresses (internet connections) reserved for the carriers submitting the data. The servers holding CO APCD data are "hardened" to prevent data from being downloaded to a laptop, USB drive, disc or other device. Remote access to the CO APCD is not permitted (e.g., from an employee's home

computer). Further, the Data Warehouse Manager conducts quarterly “penetration” (hacker) testing of the CO APCD to detect potential areas of vulnerability.

When the Data Warehouse Manager receives a file, security protocols run automatically in a secure, access-restricted environment to confirm that the files contain the expected information before further processing and storage in the data warehouse.

The CO APCD data warehouse is housed in a highly secure facility in Albany, NY that is protected in the following ways:

- The building is monitored by closed circuit television.
- Security personnel monitor access to the facility.
- Access requires a proximity card, an identity card, and a key.
- The CO APCD data is hosted on dedicated equipment in secure enclosures.
- The equipment has been installed using best practice methods published by the National Institute of Standards and Technology (NIST).

Access to the database is strictly controlled with multiple levels of security:

- The CO APCD is structured to only allow the minimum amount of access to data absolutely necessary for a particular project related task. Access is based on specific roles and security clearance.
- Electronic access is carefully monitored, verified, recorded and controlled.
- Computer and network security staff are located in full view of physical access points during business hours.
- Firewalls, intrusion prevention systems, and other technologies maintain constant privacy and separation from the outside world.

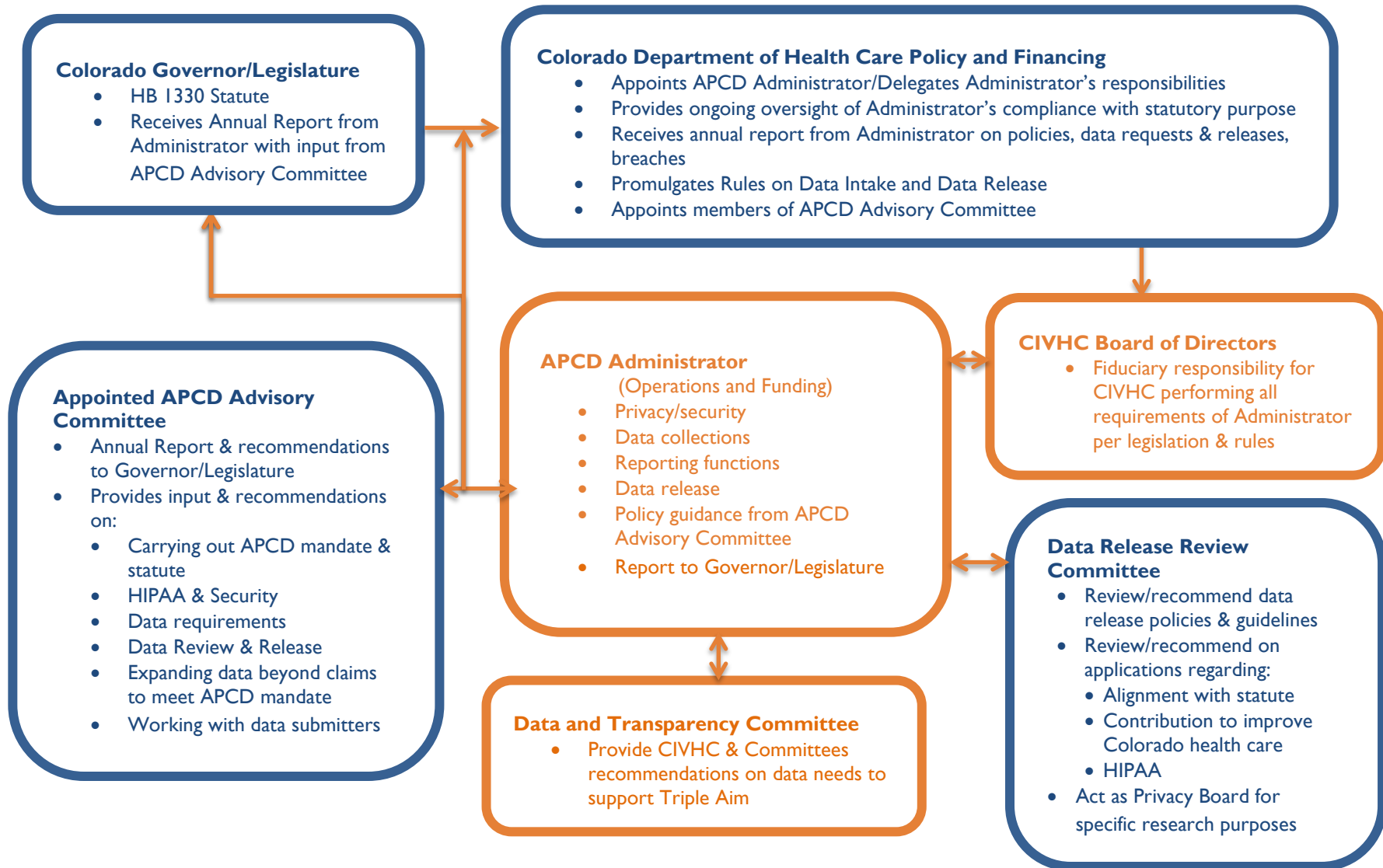
Data encryption techniques offer additional protection. All CO APCD data is encrypted both while in motion (or being transmitted) and at rest (while stored). Encrypted data can only be decrypted by the party receiving the data or by the Data Warehouse Manager during secure, internal data processing. This methodology is used throughout the CO APCD. An example of encryption is as follows:

FIGURE 22: EXAMPLE OF DATA ENCRYPTION METHODOLOGY

Un-encrypted Data	→→→→→Becomes→→→→	Encrypted Data
Name: Jane Doe	→→→→→→→→→→	3INDzLjr2SnG8ma4wvLoXw==z
DOB: 1/1/1980	→→→→→→→→→→	5IZB3CeWebVUYm2u9bI+
Gender: F	→→→→→→→→→→	9D4QK0mn5hEI/2F5
Admit Date: 2/1/2010	→→→→→→→→→→	bF6R7dA9rdz3k2dez
Discharged: 2/5/2010	→→→→→→→→→→	s7J5ImWcr7WQ4CmN

De-identification: Protected data elements such as name, street address and Social Security number are removed as part of initial processing and replaced with a unique member identification number. Depending upon the type of data requested, birth date is replaced with age or age range, and zip code data is aggregated to the first three digits. Data suppression rules are in place to prevent the release of any information which may make it possible to identify any individual represented in the CO APCD database.

Appendix I: APCD Oversight Roles and Relationships



- **HCPF.** HCPF provides the legal and regulatory framework and oversight for the operation of the CO APCD. Under the statute, HCPF is responsible for naming and overseeing the Administrator, appointing a statewide Advisory Committee, determining whether sufficient funding existed to create the CO APCD, and issuing rules describing what data may be collected, how it is protected and how reports may be released. Furthermore, HCPF required CIVHC to enter into a contract outlining HCPF's oversight of the CO APCD and a detailed Scope of Work containing reporting requirements in regard to key policies, data requests and releases, and any breaches.
- **CO APCD Advisory Committee.** CRS 25.5-1-204 as amended by SENATE BILL 13-149 specifies a broad-based advisory committee representing payers, providers, researchers, business, policy and consumer interests from across Colorado (see [Appendix E](#) for a list of Advisory Committee members). The CO APCD Advisory Committee makes recommendations to the CO APCD Administrator about the scope of and approach of CO APCD concerning data gathering, reporting and sustainability. The APCD Advisory Committee was reauthorized in SENATE BILL 13-149. The Advisory Committee now has a total of 28 members (previously 26), 12 of whom are new to the Committee. On August 1, 2013, the new APCD Advisory Committee was approved by Executive Director of Health Care Policy & Financing. The first meeting was held on September 11, 2013 with subsequent quarterly meetings refer to Section II for a complete description of the ongoing role of the CO APCD Advisory Committee.
- **Data Release Review Committee.** Limited release of CO APCD data is allowable under the established HCPF rules, which dictate that all Health Insurance Portability and Accountability Act (HIPAA) privacy and security rules are strictly enforced and the purpose of the data request contributes to improving the health and health care of Coloradans. The rules require that a multi-stakeholder Data Release Review Committee (DRRC) review data requests and advise the Administrator whether such requests meet all statutory requirements.
- **Administrator.** The Executive Director of HCPF named CIVHC as CO APCD Administrator August 2010. CIVHC is a nonpartisan, nonprofit organization committed to developing and advancing initiatives across Colorado that enhance consumers' health care experiences, contain costs and improve the health of Coloradans. Initially, a public-private entity created by Executive Order of the Governor in 2008 and housed within HCPF, CIVHC became a stand-alone 501(c)(3) organization in 2011.
As Administrator, CIVHC is responsible for all administrative aspects of the CO APCD including:
 - Securing funding for establishing and operating the CO APCD and developing a long-term financial sustainability model;
 - Oversight of Data Manager, Treo Solutions to procure and maintain submitter data files, perform data modeling and provide analytic tools;
 - Ensuring the public reports and data release requests generated from the CO APCD contribute to better health, better care and/or lower costs for Coloradans and follow all HIPAA requirements for privacy and security;
 - Providing reports to the Governor's office, General Assembly, HCPF, Colorado Health Foundation and Colorado Trust;
 - Working with the CO APCD Advisory Committee to guide policy and administrative activities; and
 - Managing all CO APCD data requests in conjunction with the DRRC and in accordance with all HCPF promulgated rules, HIPPA, HITECH and DOJ regulations while working with Treo Solutions to ensure a safe submission conduit for release of requested and approved data requests.

Specific to data release requests, the CO APCD Administrator is required to provide HCPF with an annual report on or before April 1 of each year that includes:

- Any policies established or revised pursuant to state and federal medical privacy laws, including HIPAA;
 - The number of requests for data and reports from the CO APCD, whether the request was by a state agency or private entity, the purpose of the project, a list of the requests for which the DRRC advised the Administrator that the release was consistent with rule and HIPAA, and a list of the requests not approved;
 - For each request approved, the Administrator must provide the HIPAA regulation pursuant to which the use or disclosure was approved, and whether a data use agreement or limited data set data use agreement was executed for the use or disclosure; and
 - A description of any data breaches, actions taken to provide notifications, if applicable, and actions taken to prevent a recurrence.
- **CIVHC Board of Directors.** In accepting the role of CO APCD Administrator, CIVHC's Board of Directors (See [Appendix L](#) for a list of CIVHC board members) has the fiduciary duty to ensure that CIVHC's leadership and staff carry out all functions of the CO APCD in ways that meet the intent and specific statutory requirements of the CO APCD and the associated HCPF rules including all HIPAA and HITECH laws and regulations related to privacy and security. It also ensures that CIVHC complies with all reporting and contractual responsibilities related to the oversight of the CO APCD including working with the CO APCD Advisory Committee and DRRC to provide reports to the General Assembly, the Governor, and HCPF, and to the foundations which have provided initial funding to the CO APCD.
- **Data and Transparency Advisory Committee.** The Data and Transparency Advisory Committee provides input and guidance to the Administrator on:
 - Strategies to measure progress and motivate action toward achieving the Triple-Aim goals;
 - Strategies to align measurement and transparency initiatives within Colorado, across states and at the national level; and
 - The types of information the CO APCD will generate including priorities for CO APCD reports and other research.

Appendix J: Privacy, Security and Data Release Fact Guide

All Payer Claims Database: Background

The Colorado All Payer Claims Database (APCD) collects health insurance claims from public and private payers into a secure database. Created by legislation in 2010 and administered by the Center for Improving Value in Health Care (CIVHC), the CO APCD is Colorado's most comprehensive source for information about health care spending and utilization in Colorado. As of January 2014, the CO APCD includes health insurance claims from Medicaid and the 16 largest health plans for the individual and large group fully-insured markets. These claims represent more than 2.5 million Colorado residents, or over 50 percent of the insured population in the state. By the end of 2014, the CO APCD is projected to include claims information for remaining segments of the commercial market as well as Medicare, eventually reflecting the vast majority of insured Coloradans.

CO APCD Security and Data Availability: Summary

In accordance with Department of Health Care Policy and Finance (HCPF) rules (10 CCR 2505-5-1.200.5), CIVHC is required to ensure the CO APCD follows all HIPAA privacy and security regulations to protect patient information. Claims information in the CO APCD is encrypted, both in transmission and while stored, and resides on secure servers which undergo systematic ongoing testing for security. Only high-level aggregated information is available on the public CO APCD website (www.cohealthdata.org); no individual or personal information may be seen on the CO APCD site.

Limited and controlled release of CO APCD data is allowable under the established HCPF rules, provided Health Insurance Portability and Accountability Act (HIPAA) privacy and security rules are strictly enforced and the purpose of the data request meets the goals of the Triple Aim for Colorado: better health, better care and lower costs. The rules require that a multi-stakeholder Data Release Review Committee (DRRC) review data requests and advise the Administrator whether such requests meet these criteria and will contribute to better health for Coloradans.

CO APCD Security and Data Availability: Detailed Q&A

Who decides who can get information from the CO APCD? What rules do they use?

The CO APCD governance rules promulgated by HCPF require that the DRRC develop protocols for the release of CO APCD data. The DRRC comprises health care data and analytical experts representing a variety of organizations and stakeholder perspectives. The rules require that the DRRC shall review the request and advise the Administrator on whether release of the data is consistent with the statutory purpose of the CO APCD, will contribute to efforts to improve health care for Colorado residents, complies with the requirements of HIPAA and will employ appropriate analytical methods. Requests must meet all these criteria in order to be approved. Approved data requests then require the requestor to enter into a very strict Data Use Agreement. Additionally, the CO APCD Administrator is required to report annually to HCPF listing data requests, their use and how they met HIPAA requirements.

What kind of information can organizations get from the CO APCD?

By rule, the CO APCD Administrator is permitted to provide or "release" data at varying levels of detail and specificity. All releases of CO APCD data must meet all HIPAA privacy and security guidelines and are subject to review and advisement from the DRRC, which requires that the intended use supports reaching the Colorado Triple Aim of better health, better care, and lower costs. For example, public and private entities may request information on costs associated with treatment of a specific diagnosis or disease by region or county, variation in cost of procedures by facilities, and utilization of high cost services such as MRIs for a defined population.

Are there limitations on the data that organizations can get from the CO APCD?

Yes, CO APCD data releases are subject to both HIPAA restrictions and state legal and regulatory restrictions to protect privacy:

1. In keeping with the “minimum necessary” standard established under HIPAA, applicants must demonstrate need and provide justification for each data element requested. The DRRC will recommend and the CO APCD Administrator will release only those data elements which are specifically necessary to accomplish the applicant's intended use.
2. Protected Health Information (PHI) may only be released in limited circumstances for public health, health care operations and pre-approved research purposes, and can never be shared publicly as a result of a research project or program.
3. For research-related requests, applicants may be required to show written approval from an Institutional Review Board or a Privacy Board as part of the Application.
4. As part of the Data Use Agreement, all Applicants must provide written assurances that:
 - Data will be used only for the purpose stated in the Application.
 - No attempt will be made to use any data supplied to ascertain the identity of specific insured individuals or patients, or to report data at a level of detail that could permit a reader to ascertain the identify of specific insured individuals or patients, nor will downstream linkages to outside data sources occur without specific authorization from the CO APCD Administrator.
 - Restricted data elements such as PHI will not be released except as specifically approved in the original Application and Data Use Agreement.
 - The Applicant will obtain these assurances in writing from any recipient of data or agent that processes data on behalf of the Applicant.
 - The data will not be re-released in any format to anyone except personnel identified and approved in the original Application and Data Use Agreement.

What information is required in order to submit a data request?

According to both CO APCD statute and HCPF rules, all data release applications must be submitted in writing and describe in detail:

- The purpose of the project and intended use of the data.
- Methodologies to be employed.
- Type of data and specific data elements requested along with justification.
- Qualifications of the research entity requesting the data.
- The specific Privacy and Security measures that will be employed to protect the data.
- Description of how the results will be used, disseminated or published.

The DRRC reviews the data release applications and advises the Administrator on approval or denial.

What kind of organizations can get information from the CO APCD?

Both public and private entities may receive CO APCD reports subject to review and advisement of the request by the DRRC. Organizations that have requested information from the CO APCD so far include university researchers, divisions of Colorado state government and private firms developing new pricing models for health care services.

What can CO APCD data be used for? Are there any restrictions on the purposes for which it may be used?

Data requests may only be used to inform projects or support programs that support the achievement of one or more of the categories of the Triple Aim for Colorado: better population health, better quality of care and patient experience, and lower cost of health care. Data cannot be used to directly market to individuals for

market gain of an individual or organization. For example, a data request identifying all diabetic patients for purposes of target marketing a new diabetic drug does not meet the intended use criteria. Personal health information can never be shared publicly as a result of a research project or program.

Can an organization charge others for information it gets from the CO APCD?

Under an approved request, use of the released data is limited to the specific purpose as described in the original application. Further use of the data for a purpose not reflected in the original application would require a new request that fully complies with the privacy and security requirements of HIPAA.

Is there any circumstance in which a private company or individual could get personal, identifiable health information out of the CO APCD?

HIPAA allows the release of certain, limited data fields for very narrow purposes: public health activity, health care operations, and research activity. The DRRC will review every request for CO APCD data reports to ensure that no information is released that goes beyond HIPAA rules and the Administrator will deny any request for data or reports that would violate HIPAA or state law and rule.

Could a company get a report from the CO APCD identifying all the people in a given zip code who have a certain diagnosis or have been prescribed a certain drug?

There is no circumstance we can envision in which a company could obtain this data without first directly obtaining patient authorization to do so. The company would then have to meet all other data release requirements including showing how this information would improve health, care or lower costs. Similar to HIPAA laws that govern providers or payers, release of specific names of patients can only occur in the most unusual public health circumstances or under research protocols that under HIPAA laws require patient authorization or Institutional Review Board research approval.

What happens if an entity misuses CO APCD data or uses it for a purpose other than that for which the entity applied?

An approved applicant must sign and enter into a Data Use Agreement or contract with the CO APCD Administrator and agree to the following:

- Restrictions on data disclosure and prohibitions on re-release of the data.
- Prior approval from the CO APCD Administrator subject to DRRC guidelines is required to publicly release any reports based on the data. The CO APCD Administrator will carefully review all materials intended for publication or dissemination to determine whether the privacy rights of any individual would be violated by the release of the information.
- Violation of the terms of the Data Use Agreement constitutes a breach of contract and may:
 - A. Require the immediate surrender and return of all CO APCD data.
 - B. Result in denial of future access to CO APCD data.
 - C. Lead to civil action by the Administrator for breach of contract.
 - D. Result in a complaint filed with the U. S. Department of Health & Human Services, Office for Civil Rights, as well as civil and criminal action and penalties.
 - E. State Attorneys General are also empowered under the HITECH Act to take civil action regarding certain HIPAA violations.

How is the CO APCD Administrator held accountable for the use of CO APCD data?

The CO APCD Administrator is required to provide HCPF with an annual report on or before April 1 of each year that includes:

- I. Any policies established or revised pursuant to state and federal medical privacy laws, including HIPAA.

2. The number of requests for data and reports from the CO APCD, whether the request was by a state agency or private entity, the purpose of the project, a list of the requests for which the DRRC advised the Administrator that the release was consistent with rule and HIPAA, and a list of the requests not approved.
3. For each request approved, the Administrator must provide the HIPAA regulation pursuant to which the use or disclosure was approved, and whether a data use agreement or limited data set data use agreement was executed for the use or disclosure.
4. A description of any data breaches, actions taken to provide notifications, if applicable, and actions taken to prevent a recurrence.

How do you protect the information in the CO APCD?

The safety and privacy of personal information is a foundational principle of how the Colorado CO APCD is designed and operated. Not only is data encrypted and protected but personal information will never appear in any public CO APCD data output or report.

Data Security: When carriers submit files to the CO APCD, the datasets are always encrypted and sent over a secure connection to Treo Solutions, the CO APCD Data Manager. This connection is limited to a pre-determined list of users and IP addresses (internet connections) reserved for the carriers submitting the data. The servers holding CO APCD data are “hardened” to prevent downloading data to a laptop, USB drive, disc or other device. It is not possible to get remote access to the CO APCD (e.g., from a Treo employee’s home computer). Further, Treo Solutions conducts quarterly “penetration” (hacker) testing of the CO APCD to detect potential areas of vulnerability.

Elimination of personal identifiers: As data are loaded into the warehouse, all personal information is automatically removed from the record and replaced with a separate, unique identification number that does not incorporate any personal information. Additionally, birth date is replaced with age category and zip codes are reduced to the first 3 digits (or 000 if from a zip code with fewer than 20,000 people).

Controls on how the database is used for analysis and research: Simply stated: your personal information will never appear in any public CO APCD data output or report. All requests for CO APCD data must detail the purpose of the project, the methodology, the qualifications of the research entity and, by executing a data use agreement, comply with the requirements of HIPAA. The DRRC reviews the request and advises the Administrator whether release of the data is consistent with the statutory purpose of the CO APCD, contributes to efforts to improve health care for Colorado residents and complies with the requirements of HIPAA.

What would a hacker see if he got into the database?

Encrypted information as illustrated above. All information in the CO APCD is encrypted during transmission from the health plans and while it is “at rest” in the database. To mitigate encryption key compromise, each submitter is identified prior to submission by Internet protocol (IP) address. These IP addresses are unique, and transmission is only allowed from these sources. Additionally, each submitter is provided with a unique encryption key, which encrypts the data while in transit. Once the data is decrypted and processed, the source data at rest is encrypted using advanced encryption standard (AES 256 bit) and protected.

Could an employer or a law enforcement agency requisition information about an individual from the CO APCD?

Based on the CO APCD statute and HCPF rules, the CO APCD must adhere to federal privacy laws, specifically HIPAA, regarding data disclosures, just as your insurance company must do with respect to claims information.

The CO APCD statute and rules provide no special protection from law enforcement, and there are HIPAA exceptions that, under some circumstances, allow for data disclosures (e.g., certain law enforcement purposes, certain judicial proceedings). Any data that was released under such circumstances would, however, require that HIPAA's privacy standards be met.

Appendix K: About CIVHC

The Center for Improving Value in Health Care (CIVHC) is a non-profit, non-partisan organization committed to identifying, advancing, supporting and promoting initiatives across Colorado that meet the Triple Aim of better health, better care and lower costs.

Initially a public-private entity founded as a result of recommendations from the Colorado Blue Ribbon Commission for Health Care Reform and an Executive Order planning committee consisting of a broad coalition of health care stakeholders, CIVHC transitioned to a stand-alone non-profit in 2011.

Our Mission

CIVHC is dedicated to supporting the Triple Aim for health care in Colorado through:

- Enhancing consumers' health care experiences,
- Improving the overall health of Coloradans, and
- Containing costs and premiums

How are we doing it? CIVHC engages providers, employers, consumers and health plans across the entirety of Colorado's health care sectors to develop consensus, promote and support coordinated, high-quality and transparent health care systems.

Focus Areas

CIVHC acts as a backbone organization to support the coordination and advancement of initiatives targeting the Triple Aim. With guidance from a broad base of highly influential decision makers and stakeholders statewide – from consumers to business and health care leaders – CIVHC has committed to providing synergy, leadership, tools and data to support advancing initiatives in three critical areas.

- **Data and Transparency:** Providing transparent and comparative data on the cost and quality of health care services to consumers, providers, health plans, employers and policy makers. Specific focus areas include:
 - *Colorado All Payer Claims Database administration*
 - *Statewide Metrics and Dashboards*
- **Payment Reform:** Changing the incentives of the current fee-for-service payment system in order to achieve high quality, consumer-centered and cost-effective care. Specific focus areas include:
 - *Bundled and Global Payments*
- **Delivery System Redesign:** Improving the way health care is delivered through increased access to appropriate levels of care and increased communication and coordination among providers. Specific focus areas include:
 - *Palliative Care*
 - *Healthy Transitions Colorado campaign*
- **Behavioral Health Integration:** Identifying payment models to facilitate behavioral and physical health integration to maximize the health care delivery system and reach Triple Aim goals.

Appendix L: Current CIVHC Board of Directors

Barbara Ryan, Ph.D. (Chair)

Ryan has extensive clinical and management experience working with diverse client populations across the age span, in settings that include community mental health, developmental disabilities, and with Kaiser Permanente. As Chief Executive Officer of Mental Health Partners, she has emphasized strategic planning built on innovation, redefinition of delivery systems, accountability and outcome measurement, and evidence-based practice. This includes a strong priority placed on collaboration and partnership among human service agencies to integrate services and planning for the benefit of people who are served. Ryan is a licensed clinical psychologist.

John Bartholomew*

Bartholomew is the Budget Director of the Department of Health Care Policy and Financing (HCPF), which serves almost 900,000 Coloradans with an annual budget of \$5.0 billion. He has been a member of the HCPF team for over 11 years. Bartholomew has a Master's degree in Economics from the University of Colorado, Boulder and received his Bachelor's degree from the University of California, Santa Barbara. Prior to joining HCPF, he was the lead economist at the Business Research Division at the University of Colorado, Boulder. He has served on the board of the Denver Association of Business Economists from 2000 to 2009 and completed a fellowship at the Colorado Health Foundation.

Phyllis Albritton

Albritton has more than 20 years' experience in health care and technology policy development, most recently as the Executive Director of the Colorado Regional Health Information Organization (CORHIO), a non-profit organization created to facilitate health information exchange to improve care for all Coloradans. Her experience includes policy areas, such as telecommunications discounts for schools and libraries, oral health, children's basic health insurance and other federal programs.

Jay Brooke, M.S.W.

Brooke has been the Executive Director of High Plains Community Health Center in Lamar since it opened in 1995. High Plains has grown from its original five staff to its current staff of sixty-five and established itself as a model for delivering comprehensive primary care including medical, dental, behavioral health and health education. He has been the Board Chair for the Colorado Rural Health Center, the Colorado Community Health Network and the Colorado Community Managed Care Network.

Greg D'Argonne

D'Argonne is the Chief Financial Officer of HCA-HealthONE LLC. He joined HCA in 1984 and served as the Assistant Controller at Parkland Hospital in Baton Rouge, LA and Controller at North Monroe Hospital in Monroe, LA. He has served as CFO for HealthONE and the HCA Continental Division since 2001. Prior to that, D'Argonne served as Controller and then CFO at Wesley Medical Center from 1994 to 2001. He is a native of New Orleans and graduated from Louisiana State University in 1981.

Kelly Dunkin, M.P.A.

Dunkin is the vice president of philanthropy for The Colorado Health Foundation. In this role, she leads the staff of the Foundation's three philanthropy teams; Healthy Living, Health Coverage and Health Care in their work investing in nonprofits throughout the state. Kelly has a diverse background in the philanthropy, nonprofit and education fields. Prior to joining the Foundation as grant program director in 2004, she was executive director of the Chowdry Family Foundation, a Lakewood, Colorado-based family foundation. She has also worked as an elementary school teacher in the Cherry Creek School District.

Michael Huotari, J.D.

Huotari is a nationally recognized attorney, with nearly 30 years' experience in health care business and law. Previous to his current position as Vice President of Legal and Governmental Affairs with Rocky Mountain Health Plans, he served as Executive Director for the Colorado Association of Health Plans. Prior to that, he held the positions of Vice President and General Counsel for DMCare, Inc., a disease management company and as Executive Vice President and General Counsel for Blue Cross Blue Shield Plans and affiliated companies in Colorado, Nevada, and New Mexico. Additionally, he had a law practice in Denver, Colorado.

Donna Marshall, M.B.A.

Marshall has served as Executive Director of the Colorado Business Group on Health (CBGH) since 1996. Prior to joining CBGH, Marshall was Manager of Managed Care Services for the Colorado Department of Health Care Policy and Financing Medicaid Division, where she directed all activities associated with the Primary Care Physician Program, the Drug Utilization Review Program and health plan contracts including procurement, negotiation, rate setting, enrollment and systems implementation issues, oversight and conformance with state and Federal statutes and regulations.

Steven Summer

Summer joined the Colorado Hospital Association in September of 2006. Prior to that, he spent 13 years with the West Virginia Hospital Association as President and CEO. He also worked with the Maryland Hospital Association as senior vice president from 1990 to 1993 and vice president for professional activities from 1976 to 1990. He served as a member of Colorado's Blue Ribbon Commission for Health Care Reform. He is a Fellow in the American College of Healthcare Executives.

Dick Thompson

Thompson is the Executive Director and CEO of Quality Health Network – commonly referred to as QHN - headquartered in Grand Junction, CO. Thompson's business background includes three decades of management experience in software technology and support organizations with special successes in "start up" organizations. A resident of Grand Junction for more than 25 years, he has been an active leader in many youth and philanthropic initiatives in the area. He also serves on a number of boards including the Colorado Regional Health Information Organization.

Barbara Yondorf, M.P.P.

Yondorf is president of Yondorf and Associates, a Denver-based health policy consulting firm. Yondorf and Associates researches policy issues, conducts feasibility studies, analyzes fiscal data, provides strategic planning services, facilitates meetings, drafts legislation and writes grant proposals. Barbara has written numerous reports, studies and white papers on health policy. Before starting her own company, she oversaw the health grant-making program at Rose Community Foundation. She has served in senior management positions at the Colorado Division of Insurance, National Conference of State Legislatures, and the former Colorado Department of Health. Yondorf also staffed the Colorado Legislature's Joint Budget Committee.

Karen Zink

Zink is a Women's Health Care Nurse Practitioner in Durango, Colorado. She is the owner of Southwest Women's Health, a clinic providing primary and gynecologic care for women throughout the Four Corners since 1989. Her nursing roles include staff nurse, critical care (ICU/ER), nurse educator, childbirth educator, Hospice volunteer, and nurse practitioner. She works full-time as an APN and serves as a clinical preceptor for nurse practitioner students.

* Denotes ex-officio status