



JANUARY 2014

Realizing the Potential of All-Payer Claims Databases

Creating the Reporting Plan

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Introduction

States and regional collaboratives are moving ahead with creating all-payer claims databases (APCDs) to support health system measurement and improvement activities. While aggregated claims databases provide an unprecedented view of care across all settings, the process of collecting claims information alone does not improve health care quality or reduce costs. To effectively utilize the APCD and realize its full potential, states have begun to produce reports and analyses based on APCD data—a task requiring careful consideration and planning that has yielded many important lessons.

This paper examines the critical components of states' APCD reporting efforts to date and suggests essential steps to creating credible and robust analytics. Drawn from interviews with APCD leaders, state-specific documents, and the experience of the authors, this paper is intended to help states with functioning and developing APCDs identify the building blocks necessary to create and evolve a comprehensive analytic program. This information may also be useful to those charged with designing APCD outputs, such as datasets and reports.

This paper is the second in a series of two briefs sponsored by the Robert Wood Johnson Foundation that aim to inform states on the quality and value of APCDs. The first brief, written by the APCD Council, provides an overview of basic APCD principles and future challenges, and lays the groundwork for this in-depth examination. This paper discusses considerations for states that are planning for the delivery of robust, meaningful data reports to support health system analysis.

What Will the APCD Do?

Creating the Reporting Plan

During the initial development of an APCD, potential users describe wish lists of reports, files, and analyses. The APCD team* may underestimate the urgency of framing downstream resource requirements. An up-front statement of APCD reporting goals prior to data collection reinforces data transparency and collaboration across the stakeholder community. Enabling legislation usually articulates these goals, which are often further refined in the rules or regulations for data collection and data use. In some states, a data release review committee develops guidelines to assess whether a data use application meets the APCD's expressed goals.

Engage stakeholders early and often: Health care stakeholders question how APCDs will deliver information about quality, cost, and relative value. APCD teams find that discussing the process of developing measures with stakeholders and setting out basic

ABOUT FREEDMAN HEALTHCARE

Freedman HealthCare (FHC) is dedicated to helping create a more efficient health care system and ensuring broad community buy-in to a future vision of health care delivery. Through its work with state health organizations, policy-makers, providers, and payers, FHC assists diverse stakeholder groups in adopting policies and programmatic changes and using actionable data to drive cost containment and quality improvement. FHC has provided exploratory analyses, customized project management, sustainability planning, and ongoing support to 11 states and regional organizations launching consolidated data warehouses with multipayer claims data.

ABOUT STATE HEALTH AND VALUE STRATEGIES

State Health and Value Strategies, a program funded by the Robert Wood Johnson Foundation, provides technical assistance to support state efforts to enhance the value of health care by improving population health and reforming the delivery of health care services. The program is directed by Heather Howard at the Woodrow Wilson School of Public and International Affairs at Princeton University.

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* APCD teams are often comprised of the core staff responsible for managing all aspects of the APCD process, and may include members from a single state agency, multiple state agencies, and any APCD vendors.

principles are critical elements in building trust. Stakeholders can—and should—participate in developing the foundational approach.

APCD teams find that ongoing discussions with stakeholders about the types of reports, the measurement strategy, the process of rolling out reports, and the projected timeline help build consensus about the approach and focus of data uses. Some states convene advisory committees to provide input and feedback about the overall design, implementation, and operations of an APCD. At a minimum, as the reporting strategy evolves, the APCD team should seek input from its advisory committee. Meetings also offer an opportunity for open public comment periods. Meeting with medical societies, hospital associations, and consumer groups provide opportunities to explain methodologies. Continuing the transparency theme improves the APCD's credibility well before the release of any public reports.

Establish foundational principles for reporting: Massachusetts, Tennessee, and Colorado, for example, have used some form of the following concepts to shape the message about using an APCD to compare providers:

- *“No surprises”:* Those entities being measured will have an opportunity for review and comment prior to public reporting.
- *Show variation:* Measurement should show meaningful difference.
- *Drive change:* APCDs should measure activity or outcomes that result from the measured entity's behavior.

These guidelines can be published as a statement of principle incorporated into an advisory committee report (Colorado¹, Tennessee²) or posted in explanatory material on a website (Massachusetts³).

Confirm the overarching purpose of the APCD: States present both very broad and very narrow data uses as justification for developing APCDs. (For more information on what details should be included in legislation or regulation, see *The Basics of All-Payer Claims Databases: A Primer for States*.)⁴ When the expressed use is narrow, the opportunity to use data outputs for purposes not explicitly stated at the outset may curtail important projects. This may come as a disappointment to potential data users who have high expectations about the potential effect of APCD data products. Conversely, with a broad range of reporting and analytic possibilities, policy-makers must balance managing expectations across a wide range of potential users.

Some of the questions the APCD team should ask include:

- Will users be limited to representatives from state agencies?
- Are research projects by academics anticipated?
- May providers obtain data outputs and reports?
- What uses of the data should be explicitly excluded from consideration?

Establish a realistic, phased in timeline for reports: The plan also sets expectations for rolling out analytics and reports. Data collection startup usually consumes the better part of a year. At that point, the pent-up demand for outputs is just slightly less than the need to show something from the initial months or years of planning and investment. A reporting plan with phases or tiers of reporting demonstrates that the APCD team has a clear view of how reports will evolve.

When prioritizing types of reports and creating a timeline, the APCD team needs to recognize that the data sets become more accurate as more users work with the data and flag potential issues. That information becomes the basis of a continuous quality improvement cycle that connects data users to the APCD team to data submitter to data manager.

Considerations for Report Recipients

Reports for Policy-Makers

Include comprehensive information on disease incidence, treatment costs, and health outcomes for informing and evaluating state health policies and programs. APCD data can provide state policy-makers with standardized and transparent data to assess the financial effects of health care transformation projects, assess demographic and geographic variations in health care utilization, and provide a statewide overview of health care costs and quality. APCD data supports analysis of:

- the cost of adverse health events
- differences in cost and utilization between the Medicaid and commercially insured population
- variation in provider reimbursement rates and total medical expenditures by type of service
- out-of-state health care migration patterns
- gaps in health prevention and promotion programs
- total cost of care for state residents

States also use APCD data to evaluate the impact of existing health care initiatives on targeted populations, such as evaluating the comparative effectiveness of a patient-centered medical home pilot for high-cost patients⁵ and the impact of tobacco cessation programs before and after a public education campaign.

Public program administrators use aggregated claims data to examine patterns of utilization and the value of care delivered to a given population in a geographic region. A well-known example is the Dartmouth Atlas of Health Care, an ongoing policy project conducted by the Dartmouth Institute for Health Policy and Clinical Practice, which analyzes unexplained variations in health care system utilization and costs. In a 2009 meta-analysis using a large Medicare claims database, Dartmouth Atlas researchers found that differences in nationwide Medicare spending had no correlation to the health outcomes of beneficiaries⁶, a finding that supported exploration of value-based purchasing arrangements in lieu of traditional fee-for-service models.

In a separate effort to document regional variations, Maine, New Hampshire, and Vermont issued a tri-state comparative report of health care utilization and costs by hospital service area.⁷ This was the first multistate analysis of its kind using APCD data, and it set the precedent for future regional analyses using aggregated, multipayer health care claims.

Peer Comparison Reports

These reports are based on APCD data to create benchmarks against which payers and providers can compare payment rates, conduct performance analyses, and improve clinical quality. In addition to informing policy and evaluating the effectiveness of programs, APCDs offer important opportunities to compare providers on cost and quality, and to identify promising practices for improving care statewide.

Cross-provider comparisons also provide state policy-makers and insurers the tools to redesign benefit offerings. By using standardized metrics across a variety of health care settings and over time, APCD reports highlight high-quality, low-cost providers. This information supports identification of highly effective clinicians for use in a high-value provider network. Finally, information about provider performance may be useful to public payers that are designing alternative payment models such as global payment and integrated programs for populations with particular medical conditions.

Minnesota has developed the most robust statewide peer comparison-reporting program in support of health system payment transformation. As mentioned in the previous section, accurate provider identification is essential for states wishing to measure providers' performance over time, across medical procedures, and to use these findings for cross-payer comparisons. States using APCD data toward this goal have highlighted the need for the following, described in more detail below:

- attribution methodology
- selection of process, quality, and outcome measures

Consult with providers and carriers to review and select a provider-patient attribution methodology: To create an effective peer comparison report, it is important to have processes for assigning or “linking” patients to their providers, and for creating an episode of care that identifies all services rendered and providers visited for a particular illness, disease, or medical event. A transparent process that establishes ground rules and methodologies builds trust and engages state medical societies and practitioners before a report rollout. Patient attribution methods vary by state. Drawing from the Minnesota experience, state considerations should include whether patients are attributed to primary care physicians only or whether to allow specialist attribution. In addition to determining the role providers play in validating the final attribution list, the APCD team should consider whether attribution should be:

- done prospectively or retrospectively;
- based on the number of health care encounters with a specific practitioner or on the dollars spent at each one; or
- done at the individual or group level (such as a multisite practice or an accountable care organization).

Qualified Entity (QE) Certification Program

Section 10332 of the Affordable Care Act created the QE Certification Program to create a legal methodology for publicly reporting physician-level quality measurements based on Medicare claims data combined with other payers' data. States and data organizations may apply for certification, which includes an extensive review of data security; measurement calculation methodology; and prior review by the provider community. This program is the only avenue for publicly reporting Medicare quality data at the provider level.

Consult with provider representatives to review the potential array of measures that can be calculated from claims data and confirm that the measures report a meaningful aspect of health system performance: APCD teams should consult with provider representatives to review the potential array of measures that can be calculated from claims data and confirm that the measures report a meaningful aspect of the health system performance, to provoke thoughtful discussion and analysis of cross-payer variation. As a second level of review, an advisory committee can provide input from a broader group of stakeholders about whether the measures are consistent with the APCD's purpose. In selecting these measures, APCD teams must consider:

- Whether measures are widely recognized and/or validated.
- Whether measures are actionable and provide a framework for improvement. For example, process measures capture the percentage of time that providers conform with standards of clinical care. Public reporting may increase adherence to national guidelines and in turn, improve health-related outcomes in patients.
- Whether measures can be risk-adjusted to account for case-mix and severity.
- How measures will be calculated, whether to display means or medians, and whether these calculations are statistically stable.
- Criteria for redacting measures and excluding them from publications.

To narrow the conversation, the APCD team might start reviewing the list of the 459 measures identified by the federal Qualified Entity Certification Program⁸ drawn largely from the National Quality Foundation's approved measure set created by expert panels. Calculation methodologies for these measures are widely available. CMS and national expert groups have reviewed

and approved these measures. Working with stakeholders, the APCD team can assess whether these measures meet the state's health system reporting needs.

Develop and implement a process to share findings with providers before making peer comparison reports public: This private preview allows providers time to review the measures, understand the calculation methodology, and identify any discrepancies with their own independent assessment. Providers may also wish to review the underlying data to determine whether the findings are representative of their patient population and practice for which states need a secure data-sharing model. An extended pilot period of provider previews over several reporting cycles may also allay concerns.

During this extended preview period, the APCD teams may be able to report aggregated measures for all providers in ways that do not require naming providers. For example, report the performance of all providers in a particular category by geographic area (e.g., east vs. west). Other groupings include measures stratified by provider specialty. Aggregated information allows providers to compare themselves against all providers, across all payers, and across types of coverage.

Unique provider identifiers similarly capture all the different identifiers for a single provider into one identifier. Neither National Provider Identifiers nor carrier-assigned names and numbers allow accurate identity resolution. State licensing boards include non-practicing clinicians. When building provider comparisons or average costs-per-procedure, APCD teams should allow sufficient time for creation and validation of the provider registry. For example, simply adding a room or suite number to the provider file allows the APCD to mail hard copy confirmations or reports.

Consumer Decision Support

An initial impetus for an APCD is the state's interest in providing consumers with health care quality and cost information through an interactive, web-based decision support tool. In light of recent experience in designing such websites, APCD teams should assess the effectiveness of such initiatives against the investment needed for design and operation of the consumer-facing tools.

Consumer Engagement and Experience with Similar Websites

A cornerstone of the Institute for Healthcare Improvement's Triple Aim is patient satisfaction and engagement.⁹ Activated patients, those who take an active role in their own health care, participate in the health care decision-making process, including providers' relative cost and quality. Research suggests that this group has improved health outcomes and experience a higher quality of care, as compared to their less activated counterparts.^{10,11} Other research asserts that those enrolled in consumer-driven (CDHPs) and high-deductible health plans (HDHPs) were more likely than those enrolled in traditional

plans to exhibit "cost-conscious behaviors" such as using cost information and trying to find information about their doctors' costs from sources other than their health plan.¹² To date, none of the states with consumer-facing reporting tools has conducted studies to examine whether consumer health care decision-making has shifted based on use of this information. Anecdotal reports from states and health plans suggest that consumers are not yet using available tools to compare costs across providers. Looking ahead, the growing prevalence of CDHPs and HDHPs may help drive more traffic to these resources.

Understanding the long lead time for developing reports and data, the APCD team might anticipate greater interest and therefore plan for provider comparison tools and reports. These comparisons foster two streams of health system improvement—first, increasing consumer activation through access to reports that support informed health care decisions. Second, the comparative data create a standard information base to support provider competition based on quality and value.

Several APCDs support consumer choice with reports on websites and other publicly available information platforms. Three states that have used the APCD in this way are Massachusetts, New Hampshire, and Colorado. The *Massachusetts "My Health Care Options" website* displays cost and quality measures for hospital-based procedures. Consumers are able to search by provider name, condition, or procedure, or a radius around a particular ZIP code.¹³ The *New Hampshire "Health Cost" website* provides procedure-specific cost information by provider to generate an estimated cost of a procedure or test by facility. Using additional information provided by insurers, the tool also uses the consumer's deductibles and co-pays to show estimated out-of-pocket and total costs, and the precision of the estimate.¹⁴ The Colorado APCD website has reports showing regional variation in amounts paid for "procedures of interest" to Colorado's active lifestyle.¹⁵

When the purpose of the website is defined and possibly narrowed, APCD teams must address the following topics:

- *Design requirements:* Comply with state requirements for website access standards, including low vision, literacy levels, and multiple languages.
- *Privacy and security:* State websites may not support tools and functions (e.g., auto-populate, returning visitors) that Web users have come to expect. Therefore, APCD teams must identify the limitations on functionality and expectations.
- *Clearly portraying measures:* Consumers' preferences for health care information appear to diverge from other purchases. Star and dollar sign ratings accompany most online products and services, as well as the number of "likes." But, as Hibbard¹⁶ notes in a 2012 *Health Affairs* article, consumers responded more favorably to words such as "careful with your health care dollars" than to symbols when comparing health care services.

Consumer-Facing Website Design and Maintenance: Since public reporting from APCDs is still in early stages, a national template like *MONAHRQ*[®], which is used for hospital discharge data, is not yet in place. APCD teams may therefore rely on the data management contractor handling the intake and production of analytic files to obtain relevant expertise and capacity to guide website development. APCD teams may also seek assistance from other states with operational websites. New Hampshire, for example, shared its in-house developed HealthCost website structure and code with Maine. Massachusetts outsourced the design and construction of its website. Some measure design information is available on the Massachusetts website as well.

Once established, websites require frequent updates and new content to retain the public's attention. APCDs teams might refresh a website once or twice a year. The state's reporting plan should therefore include adding new or expanded measures on an established timeline.

In lieu of a state-designed and maintained website, APCD teams can contract or collaborate with a private firm that specializes in providing consumer-oriented health care cost comparisons. Although not fully tested, examples of companies with this type of capacity include *Consumer Reports*, Castlight Health, and Healthcare BlueBook, as well as Angie's List that collects and displays user reviews.

Finally, if the level of investment in a website is prohibitive, APCD teams should consider publishing cost and quality information in PDF format and made available for download from a state agency website. Report options include a single overall document or smaller regional subsets. APCD teams can optimize documents for searches with browser-based search tools to allow distribution of the information.

Developing Meaningful APCD Reports

The Action Plan

Create a Public Relations Strategy to Inform and Engage Multiple Stakeholders

Given that many states are just beginning to create uniform quality and performance measures, stakeholders greet new APCD reports with doubt and resistance. To mitigate these challenges, APCD teams can develop briefing materials tailored to the questions and concerns of particular subgroups. Even within the spirit of transparency and engagement, the APCD team must develop a strong response to difficult issues. The APCD team should develop talking points and FAQs developed in advance (without the pressure of an editorial deadline), as well as periodically update these documents with new materials.

Typical concerns—and suggestions for addressing them—include:

- *Concern:* “The researcher will make incorrect conclusions when analyzing data from the APCD.”

- *Sample response:* “A rigorous formal data use application process confirms the researcher's experience and capability to manage and analyze this data. The researcher must describe the purpose of the project and the qualifications of the research team.”
- *Concern:* “Individual patients will be identified.”
- *Sample response:* “Privacy and confidentiality are critical to the integrity of the APCD. The state will never identify individual patients in reports. We will create rules to maximize privacy by restricting when certain information can be displayed, also called the ‘minimum number of observations’; using only the first three digits of ZIP codes in public reports; and grouping information into age bands (e.g. adults ages 18 to 54).”
- *Concern:* “My health information will be available to anyone who wants it.”
- *Sample response:* “Researchers and analysts that want to use APCD data must submit a formal application describing the purpose of the project and the researcher's qualifications. A limited APCD file displays a unique identification number and does not show name and address. None of the APCDs in operation and delivering data currently have the capability to obtain personal records.”
- *Concern:* “As a physician, I am going to be unfairly rated based on this data.”
- *Sample response:* “The APCD's reporting plan contains reporting principles. The APCD will meet with providers to discuss measurement principles, anticipated reports, and related methodologies. In addition, preliminary private previews of an anticipated public report will allow time to review outliers and provide explanations. This principle is consistent with the reporting standards for the CMS Qualified Entity Program (see inset) that provides a rigorous framework for public, provider-specific report development and dissemination.”

Design and Monitor Data Quality Processes

Accurate and credible reporting rests on the quality of the incoming data and continuous efforts to monitor data standards. Once the APCD data collection process is developed, APCD teams must ensure the process includes a multifaceted approach to reviewing metrics, baselines, and trends on a periodic basis.

An effective process combines knowledge of health care claims, knowledge of the state or regional health insurance market, and awareness of the organization and relationships among clinicians, hospitals, group practices, and accountable care organizations. Data management firms and aggregators often provide support and assistance in these areas. Local health care system insight is also an asset for this process.

Actively Manage Approvals to Waive Data Submission Requirements

The APCD data manager receives files and reviews the structure and format of the incoming information against a set of established criteria. Existing APCDs' lists of intake edits range from several hundred to nearly 1,000 separate tests at intake. These standards, sometimes called intake "edits" or "checks," should answer the following questions:

- Does the file contain the required information in the required format?
- Do the data elements conform to the established specifications?
- Are insurance carriers complying with the data submission standards?

APCD teams must play an active role in data compliance efforts. Exemptions or waivers to data submission requirements create gaps or holes in some aspects of the data. Therefore, APCD teams should work closely with data analysts who are building APCD reports to understand the implications of these exemptions before agreeing to such. If unfamiliar with data intake processes, APCD teams may defer entirely to the data intake manager to review carriers' requests to waive certain requirements (sometimes called "waivers," "variances," or "exceptions"). In such arrangements, the data manager should provide regular reports showing the approved waivers, the reason for the approval, and the effect on the accuracy and completeness of the data.

Require the Data Manager to Deliver Expanded Data Quality Reports as New Uses are Phased-In

As the APCD matures and the volume of data grows, APCD teams should require the data manager to add additional reporting requirements based on increasingly sophisticated quality checks and trend analyses. These include but are not limited to:

- Adding and reviewing unique member identifiers and ensuring consistency over time.
- Adding analytic enhancements such as risk scores, episode groupers, and geocoding based on intended reporting objective and state-specific preferences.
- Benchmarking to other data sources that report on similar or overlapping cohorts (e.g., hospital discharge datasets, carrier Medical Loss Ratio reports, System for Electronic Rate and Form Filing, data submitted to state insurance departments).
- Examining population trends using per member per month calculations, pharmacy claims, percentage of members utilizing specific services each month, number of covered lives, etc.

- Running cross-file comparisons (i.e., do all members with claims have a valid member record for the corresponding the month of service).

Custom Reports or Off-the-Shelf Products?

APCD data collection and reporting structures are still evolving. Of the nine states that have issued any reports or data sets:

- Six states use one vendor for data collection, production, and report development. Vendors have different approaches to altering existing reporting packages and providing custom reports.
- Two states use at least two vendors, one for data collection and production and at least one other vendor for report development/analysis.
- One state performs all of the work on state-managed systems.

APCDs find that using a single vendor results in fewer hand-offs between vendors, increases accountability for data quality, and may produce reports and data more quickly than if a second vendor must also load and review the data. APCDs may want to maximize flexibility by requiring any data collection vendor to produce one or more data extracts as deliverables in addition to any specific reports.

Conduct Data Quality Processes and Create Feedback Cycles with Carriers

Recognizing that data quality improves incrementally, APCD teams must allow sufficient time to conduct data quality processes, including validation and benchmarking. Furthermore, prerequisites for detailed provider comparisons include meticulous provider identification, agreement upon attribution methodologies, and a mechanism for previewing reports with providers.

Given the complexities of provider-level reporting, APCD teams have turned to population-based reporting to demonstrate that data has been collected and has been used to develop information. Examples of measures in this category include counts- or rates-per-thousand-per-year of:

- insured individuals by type of payer
- individuals with certain disease conditions
- prescriptions in general
- variations in cost of a particular procedure (e.g., MRI) by geographic region

A second reporting phase could look at variation by type of facility, illness burden (risk scores), and smaller geographic units as well as adding quality of care measures. Subsequent phases would layer on provider specific reporting.

Throughout all phases of the quality assurance process, APCD teams should maintain consistent communication with carriers and offer feedback cycles. APCD teams should ask carriers to identify a single point of contact for questions or concerns related to data submission. Moreover, APCD teams should provide timely reports to each carrier about the status of submitted claims information and annual summary reports on the quality of data. Finally, APCD teams should hold one-on-one meetings with data submitters to discuss specific concerns or goals.

Delivering the Data

Frequency of Data Releases and Reports

Similar to other complex datasets with multiple sources and years of data, APCDs become more robust over time. As data submitters improve compliance and more data is gathered and analyzed, the APCD can offer more highly aggregated and complex information. Once the data are more robust and the production process routinized, APCD teams should plan to release increasingly detailed reports in chronological waves; effectively building off preliminary datasets to generate more detailed examinations of health care services.

Reporting Formats

States should provide APCD data and reports at varying levels of granularity and in varied formats to meet the needs of different types of users. The table below shows the most common types of APCD data deliverables and the likely user groups for each. Each common type of data deliverable is also discussed below.

Public and Limited Datasets

The most common method of providing APCD data is via standardized data packages released semi-annually or annually through a data release review process. These datasets support cost and utilization evaluations as well as for analyses of episodes of care, readmissions, ambulatory care visits, and other projects that look at care delivered in multiple settings. The most likely user group of a public dataset are researchers and analysts for projects that do not require member-specific information. Examples include frequency and average cost of specific procedures by

geographic area or member age and sex; incidence of chronic disease; and the frequency of claims for prescription drug categories. A limited dataset typically includes no more than two of the following items from the HIPAA list of protected health information: dates of service, date of birth, or ZIP code. Academic researchers typically use Limited datasets to examine topics such as patient safety; outcomes based on administrative data; relative illness burden through risk score analysis; and patterns of care.

Pre-Defined Reports

States have the option to deliver a slate of reports that examine some aspect of health system performance. The Colorado APCD presented pre-defined reports during its first year of operation and expects to incorporate the information into its interactive Web tool. While Colorado provided these reports to the public at no charge, this type of report—whether publicly displayed or available only to a limited set of users—may be of value to state agencies that monitor aspects of health system utilization and cost.

Web-Enabled Data Analysis Tools for State Agency Users

In developing APCD reporting plans for state agencies, a frequent question is whether state employees will be able to access the data without requiring the services of a programmer. Existing data analysis tools based on a data warehouse or “mart” is an option for APCD teams. As a part of upgrading Medicaid MMIS and implementing business intelligence tools, states that receive processed APCD datasets should consider extending the MMIS tools to the APCD files to allow state employees to access the data without requiring the services of a programmer. Some states see APCD files as the driver to overall expansion and improvement of health care analytic capacity among state staff.

Custom Datasets

When needed, APCD teams should consider one-time specialty requests. For example, the Colorado APCD currently provides custom data extracts to approved data users. In considering this reporting category, APCD teams should take into account the additional work needed to produce these custom datasets and the

Table 1: Common Data Dissemination Strategies

	Public and Limited Datasets	Predefined Reports	Web-Enabled Data Analysis	Custom Datasets	Web Displays	Secure Data Review
State Agency Users	✓	✓	✓	✓		
Researchers	✓			✓		
Policy-makers		✓		✓	✓	
Provider Performance Measures					✓	✓
Consumers					✓	

time needed to conduct quality reviews to determine the volume of these reports to produce.

Web Displays

Interactive features on websites allow the user to customize a publicly available report. For example, “heat maps” based on geocoding show variation across a state or city. The codes are based on street, city, and ZIP code information. Public health officials highly value heat map displays to monitor health status and particular types of service utilization. Codes based on information in the member eligibility file will be sufficient for annual updates. Geocodes themselves are not publicly reported unless the state explicitly allows the release of such data to qualified users.

Secure Data Review Tools

Secure data exchanges allow review of the records used to calculate a particular measure, particularly when developing provider-level reports. Accepted practice is to create capacity for providers to retrieve a report showing this information. States can fulfill this capacity by creating a secure file access point where registered users may retrieve reports. Other data systems offer a secure portal for data retrieval. Planning for this capacity is especially important if the state plans to become a Qualified Entity and include Medicare data in provider-level quality reporting.

The Future of APCD Reporting Programs

Among promising uses discussed in this brief, APCD teams are increasingly exploring ways in which APCD analytics can support

evaluation of health reform initiatives, analysis of alternative benefit structures, support for comparative effectiveness research, and greater overall transparency for consumers.

In addition to producing valuable data and reports, APCDs can offer organizational efficiencies by establishing a consolidated database from which state agencies, qualified researchers, and certain other private entities can request customized databases to serve various state-approved purposes. This administrative simplification is a primary aim of the current *Massachusetts APCD program*, and affords increased data security; creation of a shared, standardized resource among all state agencies; increased speed in generating customized reports and datasets; and reduction in duplicative data requests and their associated costs for payers. In addition, Massachusetts has also used its APCD to support an alternative risk adjustment methodology under the Affordable Care Act’s Premium Stabilization Programs, and plans to use APCD data to review and compare public payers at increasingly detailed levels of service.

Looking ahead, the next generation of APCDs in states like Connecticut and New York hope to build even greater reporting capacity by aligning claims-based quality information with outcome results drawn from clinical data sources like health information exchanges. To accomplish these ambitious visions, technical designers are building processes that uniquely identify each individual in the APCD so that other data sets can use the same processes to facilitate matching. Analysis drawn from both data sources could then support clinical effectiveness research to identify best practices statewide. States that take the time to carefully consider and develop their APCD reporting programs will maximize the use of these databases and set an important foundation for the credibility and usefulness of their data.

Case Study: Vermont

Reporting Objective

The Vermont APCD, known as the Vermont Healthcare Claims Uniform Reporting and Evaluation System (VHCURES), began collecting claims data in 2007. On July 1, 2013, the Green Mountain Care Board assumed responsibility for VHCURES. Originally conceptualized to serve as a resource for provider performance measurement and outpatient health care utilization, administrators have since expanded their objective to more broadly focus on policy and program evaluation. Specifically, policy-makers in Vermont are interested in using APCD data to support changes to statewide health care delivery; shifting the state from its current reactive “sick care” approach, to one that emphasizes proactive prevention and wellness programs. Towards this end, the Vermont APCD has been used to study the flow of patients and dollars among Vermont’s primary care providers using newly defined primary care service areas, and has been

mined as part of a tri-state study and report on the variation in health service utilization and expenditures in northern New England.

Setting their sights on future reporting objectives, Vermont has expressed strong interest in using APCD analytics to evaluate the effectiveness of PCMH and accountable care organization models, and explore their longitudinal impact on health care costs.

Successes

Important state successes have included open sharing of APCD claims data with the Health Care Cost Institute, a not-for-profit corporation that maintains commercial claims contributed by four of the nation’s largest health insurers (Aetna, Humana, Kaiser Permanente, and United Healthcare), and continuous engagement of physicians and stakeholders in the APCD implementation process.

Challenges

In pursuit of their reporting objectives, the state has encountered several challenges, including patient-provider attribution issues (i.e., determining which patients go to which providers), difficulty in maintaining unique member ID's over time, and difficulty in linking citizens' claims data to the prevention, wellness, and medical care coordination programs in which they participate. While these issues have not been completely resolved, Vermont is trying to fill in some of the gaps by exploring the possibility of

integrating their health insurance exchange data, as well as claims from other sources, with the APCD.

Key Lessons Learned

Having a clear vision and strong political will increase likelihood of producing meaningful reporting outputs on time and within budget; capturing and regularly updating provider registries facilitate accurate patient-provider attribution; and utility of APCD to serve program evaluation purposes (assuming complete and sufficient data).

Case Study: Minnesota

Reporting Objective

In an effort to address privacy concerns surrounding the collection of claims data, Minnesota's enabling legislation restricted the use of the APCD solely for purposes of provider-peer comparisons. Toward this end, administrators outlined a reporting program divided into three stages:

- *Stage One:* Consisted of calculating peer groupings based on various categories of illness and delivering these reports back to the providers for their review.
- *Stage Two:* Consisted of using APCD reports on provider variability (including quality and cost) to support broader policy messages.
- *Stage Three (not realized to date):* Will focus on developing a consumer-facing interface to share these peer comparisons and provider tiering reports with the public.

Successes

Specific APCD reporting objective, as initially defined by the legislation, allowed Minnesota administrators to move forward with implementing the APCD very quickly. The Minnesota Department of Health, administrator of the APCD, was also recently certified by CMS as one of four new qualified entities,

allowing them to publicly report on providers using Medicare data and certifying their methodology on cost and quality measures.

Challenges

The narrow nature of Minnesota's enabling statute has posed considerable challenges to optimizing the APCD's potential. Only having de-identified data has made it difficult for providers to validate the peer grouping reports generated from the APCD; that is, if something in the reports looks "off," providers currently have no way of cross-referencing their electronic health records or medical practice notes. Minnesota has also encountered budgetary challenges in developing the consumer decision-support tool, and has experienced push back from payers and providers concerned that publicly available comparisons may adversely impact their market share and revenue.

Key Lessons Learned

Best practices include carefully selecting language used in enabling legislation, with particular consideration of how this language may impact APCD reporting and future uses; concentrating on specific health and quality-related reporting objectives before considering cost comparisons; and maintaining carrier and provider engagement throughout entire APCD implementation process.

Case Study: New Hampshire

Reporting Objective

The New Hampshire Comprehensive Healthcare Information System began collecting claims data in 2005, and launched the public-facing website, www.nhhealthcost.org, two years later. New Hampshire originally envisioned using the APCD as an "available resource for insurers, employers, providers, purchasers of health care and state agencies to continuously review health care utilization, expenditures and performance in New Hampshire and to enhance the ability of New Hampshire consumers and employers to make informed and cost-effective health care

choices." Since implementation, New Hampshire state agencies have generated reports that focus on health care service and health insurance premium costs and cost drivers, enrollment, and disease patterns. These reports have included information on the prices of various health procedures by region and provider, benchmarking of carrier payment rates, legislative changes to insurance laws, and robust analyses of the differences between the Medicaid and commercially insured populations.

Successes

The APCD and New Hampshire cost website remain trusted sources of health care information. Throughout their implementation efforts, New Hampshire has worked collaboratively with carriers and stakeholders to preemptively identify barriers to claims collection and reporting, improve efficiencies, and discuss mediation efforts.

Challenges

One of the biggest challenges currently facing New Hampshire's HealthCost website is developing a cost-effective resource that responds to the needs of all users, including patients, employers, health care providers, insurers, and policy-makers. Providing

data on a full range of health care services in such a way the data are useful, appropriate, and reliable to an array of users will continue to be an ongoing challenge. New Hampshire hopes to make better use of Medicaid and Medicare data on these fronts, recognizing the uses of public payer data will differ than those of commercial insurance data.

Key Lessons Learned

Maintaining similar data submission rules among states with APCD laws will help to facilitate data collection and reduce errors in the claims submission process. Maintaining relationships with all interested stakeholders and creating an effective process for reporting data in the public domain are key components of a project like this.

Case Study: Colorado

Reporting Objective

The Colorado APCD, administered by the Center for Improving Value in Health Care (CIVHC), began collection of claims data in early 2012. As part of the initial planning process, Colorado policy-makers identified "improving the health of all Coloradans" and achieving the Triple Aim of better health, better health care, and lower costs, as their broad mission.

To achieve these goals, the Colorado APCD Advisory Committee established specific, increasingly complex public reporting milestones with corresponding target completion dates. From the outset, three reporting "tiers" set very clear analytic and reporting priorities and expectations that were included as mandatory requirements in CIVHC's procurement of an outside data management vendor. The objective of Tier 1 reports, first made available on www.cohealthdata.org in the same year data collection began, was to support the public health community and inform statewide health reform policy activities. These reports illuminate high-level variation in state and regional cost patterns and utilization rates of common health care services. All reports available on the Colorado APCD website can be displayed by county and three digit ZIP code groupings and can be further stratified by age range and gender.

Tier 2 reports released in 2013 include data that has been processed to reflect the underlying health status of individual patients. This data processing (or risk adjustment) facilitates reporting on the prevalence and costs to treat chronic diseases (asthma and diabetes, initially), analysis of cost drivers and comparison of observed to expected values based on underlying health status. Tier 3 reports, which will be available beginning in 2014, will provide consumer-focused information including comparative cost and quality data on a named facility and provider group basis. These reports are intended to allow consumers to meaningfully shop for and make informed, value-based decisions regarding their health care. In addition to the reports available on www.cohealthdata.org, the Colorado APCD

has developed a data release process under which entities may request access to custom reports and analytic data sets for public health, research, and health care operations purposes.

Successes

The Colorado APCD has served as a model for working collaboratively with various stakeholders, including insurance carriers and the medical community, to advance the APCD mission with the least amount of resistance. Clear expectations for what the APCD was expected to achieve, and the vetting of this vision with the data management vendor, has resulted in meaningful reporting outputs completed on time and within budget.

Challenges

Although established by legislation, the Colorado APCD receives no state general fund dollars to support development, implementation or ongoing operations. This, along with the Colorado APCD's broad mission, have created some tension between public reporting requirements and a need to release data in ways that generate revenues to support ongoing operations. All releases of APCD data for public health, research, and health care operations purposes must comply with all HIPAA and other privacy and security requirements as well as joint FTC/DOJ anti-trust, safe-harbor guidelines. CIVHC is also currently working to enhance their consumer-facing website by thinking strategically about what types of data to present to the public, and exploring ways to present it (i.e. minimizing the number of clicks it takes to access information).

Key Lessons Learned

Consumer-facing reports and Web applications require a significant investment of resources; importance of fostering strong collaborative relationships with all interested stakeholder groups, providing them with regular updates, and asking for continuous feedback on an ongoing basis; value of defining an APCD vision,

public reporting objectives, and a data release process that allow for the broadest potential use of data.

Case Study: Massachusetts

Reporting Objective

In 2008, Massachusetts conferred authority on the Division of Healthcare Finance and Policy (DHCFP) to create an APCD that, among other things, would provide policy-makers with important information on the variations in health insurance premiums, variations in the benefit mix offered by carriers, and statewide variations in health care utilization.

Following a two-year planning phase in which DHCFP engaged payers and other stakeholders in a collaborative process to address potential concerns, the final APCD regulations identified “administrative simplification” as the main vision for the APCD, and provided a clear framework for data release. Up until that point, several Massachusetts state agencies were separately collecting claims data from payers for various policy and research purposes, and were struggling with the substantial lag time between requesting and receiving the necessary claims information from multiple payers, as well as the consistency in data across payers. The APCD would create a single data warehouse, updated monthly, from which state agencies, providers, payers, researchers and others could request information for a variety of purposes detailed in the data release regulations. This would ensure that all agencies were using the same data, as well as relieve the burden on carriers.

Successes

The Massachusetts APCD is successfully used as a shared data source, achieving the goal of administrative simplification. Currently, several Massachusetts state agencies are using the APCD data including the Massachusetts Health Insurance

Exchange, the Massachusetts Health Policy Commission, the Department of Public Health, and more than a dozen researchers. APCD data is used for population analyses, cost trend monitoring, development and operation of a state-based risk adjustment program under the ACA, and there are plans for a consumer website. Massachusetts continues to hold regular meetings with carriers to vet potential concerns as the state amends its claims data requests and validates findings based on APCD data. Massachusetts has also convened a committee of external stakeholders to review data requests from researchers and others. In addition, recent health reform legislation (Chapter 224 passed in 2012), codified the APCD as a source for mandated state analysis, introducing a new administrative architecture and giving it clear legal authority.

Challenges

Storing, securing, and maintaining large amounts of data can present a challenge. Hardware, software, and operations need to be tuned to accept data from more than 120 payers that submit data to the Massachusetts APCD monthly. Releasing detailed data in a HIPAA compliant manner poses legal, policy, and operational challenges.

Key Lessons Learned

Collecting detailed and standardized information about cost, utilization, plan design, and providers from public and private payers substantially increased interest in the APCD and expanded its potential uses among state agencies; importance of continuous stakeholder engagement; and importance of identifying “state purpose” as the “business model” of the database.

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