

Analytic Plan Guidance Document

For States Developing All-Payer Claims Database
Analytic Plans

Funded by the Agency for Healthcare Research and Quality

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In this document we summarize the input received from the Work Group Panel at the 2012 APCD Meeting, in hopes that both newly formed APCDs and those which are in the process of forming, will benefit from the wisdom of those who have already implemented APCD analytic programs and from the NAHDO data collection on measures in use.

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Analytic Plan Guidance Document for States Developing All-Payer Claims Database Analytic Plans

Background

The first statewide All-Payer Claims Database (APCD) system was established ten years ago. Since that time, APCD systems have been established in a growing number of states. APCDs are created to address a need for transparency in health care, including comparative information on health care costs and quality. While much progress has been achieved across states in the collection and aggregation of medical, dental, pharmacy claims and enrollment information from commercial and private payers, APCD analytics are less developed. States vary in their release policies and their reporting practices. The National Association of Health Data Organizations (NAHDO) received funding from the Agency for Healthcare Research and Quality (AHRQ) for this project to assess existing APCD reporting initiatives and identify potential next steps to facilitate the use and improve the comparability of APCD information.

NAHDO established a state APCD workgroup to respond to our initial research and to assist us with additional information gathering. The workgroup, listed in Appendix 1, comprised of individuals from eleven states at various stages of APCD planning and implementation, participated in a webinar in September 2012, and on a workgroup panel during the October 25th APCD meeting. As a part of this project, NAHDO conducted an inventory of existing APCD analytic reports to identify and catalogue measures being utilized by state APCDs. Information was gathered through website searches of the APCD Council site, individual state APCD websites, APCD affiliated organizations, and general web searching. The table of existing measures is included in Appendix 2. In addition, feedback and updated information was solicited from the state APCD workgroup on the measure table.

The table lists measures used by each APCD, available public reports, and plans for future reporting by the APCD. Table domains were vetted with the workgroup as were results from the web search. We also discussed whether there was consensus on the need for an on-going place to share measures across states, and where and how the table should be maintained.

In this document we summarize the input received from the Work Group Panel at the 2012 APCD Meeting, in hopes that both newly formed APCDs and those which are in the process of forming, will benefit from the wisdom of those who have already implemented APCD analytic programs and from the NAHDO data collection on measures in use. We recommend that APCDs would benefit developing documents for their plans for both analysis and release of information. APCDs can use these plans to gain support for their work and avoid some of the challenges that have delayed or derailed efforts in the past.

2012 APCD Meeting

At the 2012 meeting, we covered a wide range of topics associated with analytic plans, from governance issues to strategies for measurement. Naturally, some of the topics could be discussed in several topic areas, but we limited inclusion to one area. It should be noted that, to our knowledge, there is not a

single analytic plan in place that has covered all areas in our discussion. From these discussions we suggest that the following topics be covered in an analytic plan:

APCD Governance

What is the governance structure in the legislation? A clear description of how it impacts the data collection, analysis and release should be described.

Input by Stakeholders

What is the process for obtaining stakeholder input/engagement on measures? On groupers and risk adjustment? On displays in public reports?

Input by plans/providers

What is the process for engaging the data submitters in the analytic plan? How can you structure timing of regulatory changes to coordinate with other states and with payers?

Data quality issues

How do you plan to address data quality issues? What will be the policy and process for establishing error thresholds for key fields? Is there a plan to provide error feedback reports to the data submitters?

Groupers

What process will you use to select Groupers? How will decisions around which diagnostic codes to use for inclusion in Groupers be made...which episode grouper for your measures? Will there be options for flexibility in which methods are used and how will this be determined?

Risk adjustment strategies

Is there requirement for severity or risk adjustment of performance reports? How will the method be selected and do you have plans to adopt a proprietary method or or develop a state-specific method?

Dissemination strategy

What are the plans for dissemination of data products, reports, and information derived from the APCD? Are there provisions for multiple methods that include web/public reports/ custom-for sale? What will be the validation/review process and feedback loops?

The next sections cover some of these topics in greater detail.

Governance

The discussion at the APCD council meeting suggested that the governance structure for APCD's was a key driver in how they approached data collection, and to a lesser extent measurement and analytics. We define governance more globally than strictly government regulations or government policies to include private sector policies. Some key questions about governance follow:

- Is the state APCD the primary steward of the data?
- Is it clear in the statutes which entity is responsible for the privacy and security of the data?
- Are there any rules or mandates regarding who can acquire the data?
- Can data be merged with other data sources within the state (hospital discharge, ED data) or outside the state (registry data from specialty groups; AHA Annual Survey)?
- Must data users access the data through a central service, allowing only download of aggregated results? Or, is there available a public use file (PUF)?
- Is analysis of the data restricted in any way?
- Are there requirements for risk adjustment?
- Are there state mandated reports? For example, comparative analyses, hospital comparison reports, physician clinic reports, or episode reporting?
- Are the rules flexible for general purpose uses (e.g., is there a general requirement for public availability of cost, quality, or access reporting)? Or, are they restricted to a single purpose and not for general release?

“Governance” generally provides a structure for the APCD data collection, but is often less prescriptive in terms of data analysis and release of data. States typically fall into one of the three following categories of governance related to data analysis and release.

- **Mandated Requirements:** the Legislature has mandated specific reports or measures (e.g., comparative performance analyses, hospital comparison reports, physician/clinic measures, cost measures, or population health measures).
- **Open or General Purpose Uses:** No requirement for specific measures/reports with the expectation that uses will be broad (e.g., required public availability of data for cost, quality, access). Governance may be covered under some other section of public law, so no additional language covering APCD analytics.
- **Restricted Use:** APCD uses are restricted to a single purpose or a single group of stakeholders and are not for general release.

It is important that staff and data constituents have access to documents covering both the requirements and policies for analysis and release—this will guide both the data constituents and staff in terms of both type of information sought and released. Consistency in response to requests is critical to avoid conflict with external parties. Thus, if there are no statutory requirements the agency should produce policies for analyses, data release, and reports. However, we must avoid being trapped by the policies—and ending up unable to address arising needs for information. Keeping in mind it’s not just about collecting data—it is about what we do with the data!

Areas where there may be a need for policy statements include: data security, data use agreements, data privacy, pricing strategy, data re-release, data linkage by external parties, and penalties for misuse. Workgroup members suggested there may also be a need for policies related to analytic “creep” to avoid situations where staff resources are extended beyond an appropriate capacity. Frequently, as data users acquire more experience with the data, users expand the scope of their requests for information. Overtime, this analytic creep can swamp a small analytic team.

NAHDO has prepared a guidance document on Public Use Files for hospital discharge systems, which may also be adapted to APCDs. The PUF document covers some of the areas (such as: security, privacy, and data use agreements) that could be documented in policy statements.

Stakeholder Engagement

It was clear from our discussion that states must engage stakeholders in the process of forming an analytic plan. That does not mean, however, that the stakeholder process has to begin at a base level. It may be that first an outline or staging of activities related to analysis and reporting could be prepared and then shared with stakeholders for their input.

States must manage the expectations of stakeholders. Some stakeholders may not be aware of the larger picture and the inherent challenges with multi-payer datasets, and thus may not see the value in starting with basic utilization analyses, but rather may jump to the most difficult analyses, such as episode analysis. We must also be watchful that “noisy stakeholders” don’t overtake the process, to acquire certain esoteric information with limited value to the bulk of the stakeholders. It is also useful to engage stakeholders in a review of the tradeoffs that all analytic and dissemination efforts face.

Stakeholder engagement serves multiple purposes: 1) as an outreach and educational tool; 2) as a formal vetting process for methods and measures; and 3) as a mechanism for overcoming resistance to analytics and dissemination. You can also define your ‘use case’ with your stakeholders.

Some APCD programs have mandatory stakeholder oversight, while for others there are no mandates or policies requiring stakeholder engagement. APCD programs have used stakeholders in a variety of ways. The level of engagement also varies, for example, some have used daily call-ins at first, but then moved to calls on a monthly basis. Some states have assigned stakeholders to act as liaisons to a payer. Others have monthly or quarterly meetings with stakeholders, or some have established technical advisory groups and various user groups.

While the stakeholder work may seem time consuming—states that bring their stakeholders with them on the analytic journey can generally rely on their support in the future. States shouldn’t shortcut the process, but should make it efficient. Setting a drop dead date for the initial sign-off on the analytic plan can assist in reducing the chances of an extended and inefficient process. Regardless of the governance structure it is good practice to continue to engage your stakeholders, knowing that there are many different opportunities to bring stakeholders into the process.

Analytic Services Options

Contracting for Analytic Services

States with APCDs are charged with connecting the dots between the legislation, stakeholder use case expectations, and Request for Proposal (RFPs)/contracts. While APCDs may have skilled staff working on data collection efforts, they may need other employees or contractors with other types of skills, especially statistical and statistical programming skills.

APCDs have utilized contractors/vendors for analytics, or have used their own staff, or have done some combination of staff and contractors (hybrid approach). Whatever choice the data agency makes, there may be some responsibilities that cannot or should not be outsourced, such as responding to ad-hoc information requests from policy makers. During a legislative session or for media research, the agency should retain at least a minimal internal analytic capacity to respond in a timely and effective way to these types of requests. Generally, the work group suggested that the hybrid approach seemed to work best—you need some internal capacity, but specialized data management and/or analytical work might be best addressed through contracted services. In some states, both the data collection and analytic skills are out-sourced to a vendor.

Unfortunately, the contracting process requires extensive time and can be expensive. It might start with the development of a use case, then a Request for Information (RFI), followed by a Request for Proposals (RFP), then proposal review and finally contracting. These steps can require significant time and resources; the process may require IT personnel, legal, and technical staff. Given that some states require “lowest bidder” selection, the RFP has to be very carefully developed to assure that all necessary services are included in the response. Criteria for selection must also be developed, to assure that all participating vendors are treated fairly and that the RFP covers all the necessary services. NAHDO and the APCD Council have compiled a range of state RFP’s, but best practices have not been documented.

Be sure to consider that vendors using proprietary tools may have restrictions on what they can pass back to you in the event of contract termination. You may want to consider having vendors use open source tools for your analytics, including the groupers, risk adjustment, and episode grouping. If the vendor steps away from the contract, you will be less at risk if you had them use open source analytic tools. Also, it is important to be very clear in contract language about what happens to the data and programming when the contract ends.

Partnership/Exchanges

Another option to consider is partnering with another entity with an understanding that they would provide some analysis in exchange for access to a public use file. The other entities might include:

- Public health
- Insurance Department
- Medicaid
- Academic/Research institution
- Quality Improvement Organization and/or Chartered Value Exchange

Internal Staff

If a data agency plans to do all the work in-house and or contract only some of the services, the agency may need to build the capacity of existing staff, and also likely network with other APCDs to extend staff resources. The APCD Council and NAHDO provide a system of sharing technologies, knowledge, and lessons learned across states in various stages of APCD implementation. This is a cost-effective staff resource for ‘borrowing’ methods and tools from other initiatives.

Some of the skills that are needed by staff include: communication skills—as mentioned by a workgroup member—“you need to have a use case... since you end up being a translator.” Writing skills, cost

allocation and technical knowledge are critical to writing RFPs, negotiating contracts, and ongoing contract management. According to one APCD manager, “you have to be efficient... sometimes a lot more efficient than you first thought.” One work group member described this as serving as “a CEO with no employees.”

States with a smaller number of payers may be able to keep staff size small—but the range of skills required is the same whether there are 10 payers or 100 payers. The knowledge base required for analytic services ranges from statistics, health services research, medicine, statistical software and programming, public health, economics, and other social science disciplines. The various statistical packages and data management tools require an understanding of the processes of data adjustment, data integration, episode building, and measurement. Institutes and professional associations provide courses and conferences on these topics that can enhance staff skills.

Networking with other APCDs to Extend Staff Resources

NAHDO and the APCD Council were designed to assist APCDs by providing linkages to others, informal training and opportunities for networking across boundaries. The history of discharge systems affirms how this has helped move new systems into more complex areas. States with discharge systems have shared SAS code, methods, edits, data use agreements, online tools, query systems, etc. Network with other APCD’s, particularly those who are a bit ahead of you in terms of experience. There is no need to re-invent –it is so much easier to do some retro-fitting of already developed products for a state APCD.

Data Warehousing and System Architecture

Intimately linked to analytics is the data warehouse and system architecture. There is usually a trade-off between what type of data submission and routine reporting you do with the more specialized and unique data analytics. If you are using structured query language for your routine processing, you will quickly realize that you might need a data analytic system that is more flexible for one-off custom analytics. The type of analytic architecture you use may also depend upon the skills of in-house staff.

As you consider development and implementation of the data processing and data analytics systems, the workgroup suggests the following:

- 1) Determine where data and analytics will reside (in house, with a vendor, in the cloud); consider how your analytic staff and external partners can easily access the data while maintaining patient record confidentiality
- 2) Seek alignment with the data transfer tools used by providers and payers in your state.
- 3) Seek alignment with the data analytic tools –what is used by providers and payers in your state—checking to see if they are using a specific grouper, risk adjuster, etc.
- 4) Determine whether to align your analytics within the state agency where housed, or with other state partners (in some states the Insurance Commission, or Medicaid)—is also an important consideration. However, often Medicaid programs use large vendors with highly structured systems which might not work for your analytics.
- 5) Document the data confidentiality issues, and how you intend to balance confidentiality with utility of the data.
- 6) Consider VPNs for research and other special customers, to avoid releasing confidential elements and to avoid linkages that might release patient identifiers.

Decisions Related to Staging Measurement

Several state APCDs have used staging or tiers of analytics to assure stakeholders that there is a clear process and set of outcomes for the analytic services associated with the APCD. Given the complexity of APCD data and the complexity of some measurement, this strategy can work to reduce failures and increase the likelihood of support from stakeholders.

As you design your analytic plan you will likely have to address the following decisions around your measurement and reporting strategies:

1. Whether to tier and/or stage implementation (e.g., moving from basic to highly specialized reporting)?
2. Whether to use only standardized measurement? Or homegrown measures? Or a hybrid approach to measurement?
3. How to balance the types of measures you will use—utilization, process, quality, cost, efficiency?
4. What data, groupers, risk adjustment, types of analysis, will be used?
5. What form of information will be released to the public?
6. Whether to identify individual providers, groups, clinics, health systems?
7. Whether you want an advisory panel for helping to make decisions on measures, release strategies, risk adjustment methods, etc.
8. How to balance patient confidentiality while still providing meaningful information?

APCD Measurement Tiers

As part of our efforts for the conference, we reviewed measures in current use by APCDs and then attempted to tier or stage the implementation in an effort to provide guidance for those establishing new analytic plans. However, there is no single analytic plan that employs all of these measures in this manner. It is entirely possible, depending on skill and resources deployed, that more difficult measures could be employed in Stage 1. Workgroup members indicated that for their first year much of the time was spent doing data validation, data cleaning, and building analytic files. As one workgroup member said, “We had to get into the ugly details of the data. Standards of data, auditing are very important in the process”. The old adage “the more users work with the data—the more errors are found” is certainly the case with complicated data files found in APCDs. Once the database has been through a cycle of editing and auditing and the agency has had time to work with and improve the data, then advancing to more complex measures that motivate change and demonstrate progress toward improvements can be undertaken.

Using standardized measures and tools can help move you forward more quickly than is possible with homegrown measures and tools. If there is a standardized measure that gets at your topic of interest, it would be to your benefit to use it. Standardized measures will less likely need special auditing or training for payers. Standardized tools for grouping, risk adjustment, case severity, burden of illness, and pricing, take years to develop, and the APCD systems can benefit from others’ work. Again, to the extent you can borrow or access standardized measures and tools, the more quickly you can get to the actual measurement and reporting.

The following tiers reflect the need to build experience with the data, and with the tools used in more complex measurement. The measures are simply examples from real-world APCDs, and there are many additional topics and measures that could be deployed depending on skill and resources. We want to also note that some APCDs start out using only the utilization measures in the first tier, and then expand the cost of care metrics and public health metrics in the 2nd or 3rd tiers. Quality of care measures are also more likely found in Tier 2 or 3 when available. Efficiency measures are also more likely to emerge in Tier 2 or 3, if the APCD has been measuring quality and resource use in Tier 2.

Utilization Measures

Tier 1 Measures related to Utilization:

- Global—overall utilization, payer groups, health planning areas, service lines
- Provider specific—Utilization of inpatient, outpatient, ED, observation, specialty, primary care, chiropractic, osteopathic, dental, pharmacy, imaging
- Payer type—Utilization by Medicaid, SCHIP, CHIP, Medicare, Medicare Part D, Private payer, Employer
- Population Health—see section on Population Health for Tier One utilization measures

Tier 2 Measures related to Utilization:

- High-level views of variation in prescription drug utilization and spending
- Utilization metrics combined for individual patients using multiple sources of care (amount of care utilized by different types of patients, e.g., those with mental conditions, over age 85, dual-eligible patients, and patients with multiple chronic diseases).
- Measures on maternity and infant care (cesarean section, induction) combined with outcomes for infants, including Low Birth Weight, NICU use).
- Number of same surgical procedures occurring inpatient vs outpatient and free-standing ambulatory surgery centers.
- Utilization metrics combined for individual patients using multiple sources of care (amount of care utilized by different types of patients, e.g., those with mental conditions, over age 85, dual-eligible, or with multiple chronic diseases).

Tier 3 Measures related to Utilization:

Most APCDs are likely in maintenance mode for the third tier related to utilization; however, certain stakeholders may have new questions that drive new measures of utilization in Tier 3. These Tier 3 measures could potentially be robust measures of utilization that are derived from APCDs that are linked or combined with other public databases, such as vital records or motor vehicle crash datasets. An example of one of these measures could be calculated after linking the APCD data with motor-vehicle accident data and then examining the number of cases with a motor vehicle crash, a hospital stay and follow-up physician visits with 6 month post-hospitalization mortality. This type of measure addresses utilization as well as mortality, and clearly is more complex to implement.

Cost of Care Measures

Many APCDs are designed to provide cost of care information for their stakeholders. Stakeholders include their data submitters who want information on how they compare to other plans. Patient advocacy groups are also very interested in knowing out-of-pocket and co-pay costs for consumers as well as information on lower cost providers.

Tier 1 Measures related to Cost of Care:

- Procedures/Conditions—Percentage of total health care costs of the top five chronic conditions, Total Cost of high cost procedures and conditions, knee, lumbar, mental health, and screenings (cholesterol, diabetes, kidney disease)
- Cost to Payer—PMPM costs, high cost areas, profile reports on medical, dental, pharmacy costs by payer, plan payments, plan costs by procedure, plan costs by health service area, variation in allowed amounts for Total Imaging Services, High Cost Imaging (MRI and CT Scans), Knee MRI and arthroscopy
- Cost to Patients—average cost to insured patients by high cost procedures and by provider
- Hospital Specific—plan payments for care for high cost procedures and conditions

Tier 2 Measures related to Cost of Care:

- Provider Cost—by specialty, standardized pricing, compared for units of service and mix of service
- Cost by Procedure/Condition—measures for preventive health, ED Visit, radiology, common surgical procedures, maternity measures, chronic conditions, pharmacy costs, variation in risk-adjusted average allowed amounts by various procedure.
- Cost to Payer aggregated costs for commercial population, payments per day and per day's supply by major therapeutic categories of drugs. High cost distribution by plan product type.
- Cost to Patients Total out-of-pocket cost, co-pays, co-insurance, deductible amounts.

Tier 3 Measures related to Cost:

- Comparative Cost, quality and value information at the level of identified payers, plans and provider groups.
- Episode Cost—Burden of illness by CRG for chronic conditions: diabetes, asthma, depression
- Cost to patients--For episode of care
- Pharmacy Costs --Key contributors driving pharmacy costs

Population Health Measures

Public health users have interests in a number of areas, and use a combination of national and local data sources for analytics. Some APCDs are integrally linked to public health. The following types of measures relate to the public health system: prevalence of disease and risky behaviors, injury, environmental exposures and hazards to health, epidemics and infections; utilization and population outcomes of the clinical care system; access to care; geographic variation in disease and care delivery; and per capita cost of care related to chronic conditions. Again, the measures that follow are examples—not necessarily the only measures that can be used. Users of this document could use measures that are endorsed by the National Quality Forum, e.g., there are 16 endorsed measures for

infectious disease and 38 endorsed measures focused on a range of cancers and care concerns (Note: not all NQF endorsed measures are designed for use with APCD data).

Tier 1 Measures related to Public Health:

- Prevalence/incidence of key chronic conditions
- High cost areas for Medicaid and Commercial populations
- Percentage of total health care costs of the top five chronic conditions
- Asthma billed medical costs and amounts paid by age group
- Health screenings for chronic conditions in small areas
- Provider access measures
- Infectious disease measures
- Prevalence of anti-depressant use for women

Tier 2 related to Public Health:

- High level trends in healthcare costs
- Admission rates for ambulatory care sensitive conditions
- Geographic variations in utilization, cost and care
- Variation in imaging rates across geography
- Overall measures such as PMPM by geography
- Ambulatory care sensitive measures

Tier 3 related to Public Health (no evidence that this type of analysis is currently done)

- Data combined with other vital records databases: birth and mortality records, hospital discharge databases—examining associated outcomes of care
- Hospital Infection rates by facility –using combined Hospital Infection Control Data and APCD data

Quality Measures

At this point in time, there are few measures of quality in use by APCDs. This is certainly an area where there is great potential. Many APCDs start by using measures and tools developed by the large measure developers (e.g., NCQA, AHRQ); and, may also share the results from the measurement done by these entities on their websites.

Tier 2-3: Quality Measures (Listed below are some examples of quality measures in use by APCD)s:

- NCQA (HEDIS) measures for mental health and substance abuse, medical groups, hospitals
- Process measures for medical groups (LDL_C, HbA1C, eye exams,)
- CMS measures for hospital care
- HCAPHS patient experience of care
- Re-admission rates (both cost and quality)

Resource Use Measures (early stage Efficiency Measures)

Tier 1: Resource Use Measures

- LOS measures for hospital use
- Outpatient emergency use and charges per visit, by age and gender

Tier 2: Resource Use Measures

The sample of resource use measures below generally produce frequency of care and cost. These measures were endorsed by the NQF in 2012. To our knowledge, these are not yet in use by state APCDs.

- Total Resource Use Population-based PMPM Index (HealthPartners). This measure examines a primary care provider's risk adjusted frequency and intensity of services which were used to manage patients; it uses standardized prices.¹
- Total Cost of Care Population-based PMPM Index (HealthPartners). This measure examines the Primary care provider's risk-adjusted cost effectiveness at managing a population using actual prices paid by the health plan. TCI includes all costs associated with treating members
- Relative Resource Use (RRU) for People with Asthma (NCQA) This measure identifies members with asthma and the total resource use over the measurement year. Encounter and pharmacy data are used for determining inclusion; results are age, gender and risk classification adjusted. .
- Relative Resource Use for People with Chronic Obstructive Pulmonary Disease (COPD) (NCQA) This measure identifies members with COPD and tallies their total resource use over the measurement year. Clinical diagnosis of COPD diagnosis is used for inclusion and results are age, gender and risk-classification adjusted.

Observations on Measures in Use

A work group member suggested that as we think about measures..."we should make sure that measures provide a little something for everyone." States just starting out in the process of measurement should select measures that "get people asking why?" Measures should start a conversation, but the next level is to select measures that motivate change, and then we need measures that allow us to demonstrate progress. Another member suggested that the measures should assure that the actions taken are right.

- There is a large range of measures in use by state APCDs.
- "One of a kind measures"—are likely due to a particular stakeholder's influence.
- Population health measures are plentiful; mainly utilizing geographic variation to examine prevalence of disease and access to care. These measures are less controversial, but do stimulate policy makers and program officers to ask "why?"
- Certain types of measures are more expensive to produce—they require risk adjustment or diagnostic/episodic groupers or standardized pricing. As a result, episode measurement is very limited—due to complexity of decision rules, software, provider-push back and other factors.

¹ National Quality Forum. Endorsement Summary Resource Use Measures, 2012.

- Quality measures are also limited given the availability of hundreds of endorsed measures—this is likely due to the strong focus on costs by stakeholders.
- Some quality measures in use have little or no variation across providers—and therefore, very little utility.
- Because of the limited use of quality measures and episode measures—efficiency measures are also lean. No composite measures of efficiency are currently released to the public. Some states calculate these measures for internal use only.
- At this time, it would be very difficult to create benchmarks or to do regional or national analyses given the lack of standardization in measures used by APCDs.
- It is recommended that APCDs come to agreement on a core set of measures that could be used for regional comparisons. Workgroup members expressed interest in starting with some common cost measures.

Dissemination Plan

Though states are at very different stages in their APCD development, most of the APCD initiatives represented by the Workgroup intend to produce and distribute information generated from their databases. In fact, the ultimate sustainability of many APCDs will be linked to the breadth and depth of information provided to various stakeholders. In essence, the ‘business case’ for the APCD is not the aggregation or collection of data, but the value of the information that the APCD can support. This value proposition is evolving, but because APCDs are relatively new systems, the full utility of APCD information is not evident or well-documented.

Having an analytic and dissemination plan assists with expectations; a roll-out of the timing of documents and data assures stakeholders that they have been heard. Part of the reason for the analytic and dissemination plan is to achieve buy-in: it is part of the process that drives stakeholder interest and support. The dissemination component should layout the “what will be shared”, the “when it will be shared” and the “how it will be shared”. This should help the APCD organization as well as the stakeholders understand the journey.

States with APCDs are willing to share their experiences and lessons learned to date with states just beginning the implementation. APCDs should also utilize their experience from the dissemination of other data collections. Data organizations that have experience in statewide hospital discharge data reporting have experience in producing and publicly releasing comparative performance reports and new APCDs can draw on that experience to explain why the plan is staged the way it is. Knowing the politics around measurement in your state and stakeholder priorities can also be addressed in the dissemination plan. Topics such as provider review timelines, provider responses/comments on their data, data updates, should be included in your dissemination section.

States that have more experience with APCD analytics are more likely to be re-assessing their measurement and dissemination strategies and making adjustments to align with other initiatives, such as health care reform, medical homes, Medicaid transformation, or health insurance exchanges. This reassessment often occurs when the agency re-issues a vendor-procurement RFP.

Reporting

The workgroup discussion at the APCD meeting and prior research on APCD measures suggests that:

- Some new APCD's have public plans for reporting, but because of data lag they are not yet reporting
- States with mandatory reporting tend to do more public reporting in the first tier
- Voluntary collections are less likely to report publicly and those that do are more likely to use measures that do not distinguish between providers (e.g., process measures with 99% compliance)
- There is wide variation in number of reports and, whether or not there is a "choice" website for the public, and utility of reporting
- Often APCD websites are difficult to find, hidden in state websites with long URLs. The APCD Council maintains links to state APCDs <http://apcdouncil.org/>

Conclusion

This report explores the state of APCD analytics and provides guidance from the APCD Workgroup for those states developing and updating their analytic plans. While we could not identify best practices from our review, we could identify key decision points, suggest a framework or structure for the plan, and lay out a potential strategy for staged implementation of analytics. We hope this document provides assistance to those tasked with APCD implementation, including the release of APCD data products and information.

States with APCD programs vary in their approaches but can benefit from standards and the sharing of best practices. A move toward more uniform practices that permit local flexibility will improve the quality of the data and the information derived from the data. Uniformity in measures and benchmarks will evolve as more states implement APCDs and generate reports from these data sources.

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STATE APCD PUBLIC REPORT TYPES: APPENDIX 2

State APCD Public Reports and Measure Types				
State/Entity	Public Reports Available (Note: Only reports using APCD data)	Focus/Types of Measures	Reported Now	Planned APCD Reports and Measures
Colorado	<p>First public Tier 1 reports were released by CIVHC in the Fall of 2012. They provide population-level views of variation in utilization of services and amounts paid for these services by geography, gender, and age group (Available at: http://civhc.org/All-Payer-Claims-Database/Data-Submission-Resources.aspx/).</p> <p>The initial Tier 1 report releases can be grouped into two broad categories:</p> <ul style="list-style-type: none"> > Interactive reports describing variation in Total Costs of Care, Utilization of Services Inpatient Utilization by major Service Line, and Provider Access and Readmission Comparisons; and >Static reports describing geographic variation in allowed amounts and utilization for Total Imaging Services, High Cost Imaging (MRI and CT Scans), Knee MRI and Arthroscopy, Lumbar Surgery excluding Scoliosis and Routine Delivery. <p>In late 2013, the APCD will begin to release Tier 2 reports that provide cost, quality and value data of interest to consumers, providers, purchasers and researchers, such as: variation in risk-adjusted average allowed amounts by various procedures; incidence of chronic</p>	<p>Plan to address healthcare spending and utilization; Reports similar to Dartmouth Atlas. Anticipates release of Public Use File and Research file to qualified users</p>		<p>Colorado is also beginning conversations with these Committees and other stakeholder groups around which quality measures (CAHPS, HEDIS, etc.) to incorporate in APCD reporting, how and for what purposes.</p>

	disease and variation in standards of care; incorporate quality of care information obtained from different sources. Plans to release additional public facing reports through the website www.cohealthdata.org			
Kansas 2010	Website links to HCUP website for hospital queries; links to health insurance private site for assistance	CMS; AHRQ; NCQA	Internal Use Only--analyses of cost, efficiency, quality, system utilization, episodes, and geographical/racial difference	
Louisiana	2009--in Implementation Phase			
Maine (2003) Maine Health Care Claims Database	Consumer online query for total \$'s paid for procedure by health plan; The Health Cost website displays total payment (facility and professional claims) information on procedures performed for Maine citizens (Available at: http://mhdo.maine.gov/imhdo/data.htm)	Procedures Costs. Also links to AHRQ Monarch for Quality Inpatient Measures	Average statewide procedure costs adjusted for patient severity (age, gender, dx); includes facility and professional payments.	
Maryland (2000) Maryland Health Care Commission Medical Care Database	Public reports on utilization of/spending for covered services by privately insured residents. Public reporting of admission rates and associated costs among Medicare enrollees by race, income, and geographic location. Internal reports for state legislators on utilization and payments for covered services. Internal reports on utilization of care by patients enrolled in the State's PCMH pilot program; final evaluation report will be made public. Public reporting on impact of Assignment of Benefit legislation on volume of out-of-network services. Plan to report population measures publicly.	Cost and utilization among the privately insured; Measures to evaluate our PCMH pilot, including cost and utilization of care by type of service, location of service, and presence of chronic conditions. Measures pertaining to Out-of-network service volume and payments; Admission rates for ambulatory care sensitive conditions.	Per capita utilization and spending, including portion paid out-of-pocket by patients, by payer market share, type of insurance market, region of the state, patient expenditure risk statutes; Per capita spending indexed to the Medicare rate; Distribution of patient expenditure risk across markets and payers; Payer reimbursement rates reported as payment per RVU by payer market share and network participation of providers.	A set of population health measures (statewide, by county, and by insurance market). The measures will include prevalence of key chronic diseases, such as depression, diabetes, and selected cancers. The measures will also include admission rates for selected ambulatory care sensitive conditions, for example: asthma, diabetes, and hypertension. Thirty-day hospital readmission rates for specific chronic and acute conditions will be constructed. Plans to conduct analysis for Exchange—of per enrollee spending—will include calculation of expenditures for total spending and for professional services, institutional services, and prescription drugs. Also, Out-of-pocket (OOP) expenses.

Massachusetts (2008) Massachusetts All-Payer Claims Database (www.mass.gov/dhcf/apcd)	<p>Commonwealth of Massachusetts has a preliminary release of 2008-2010 medical, dental, pharmacy claims and eligibility, product and provider files available to qualified applicants. (http://www.mass.gov/eohhs/researcher/physical-health/health-care-delivery/hcf-data-resources/apcd/apcd-data-application-and-related-information.html). Internal data reports for policy; Public reporting; My Health Care Options website - providing consumers with cost and quality information for common hospital procedures</p>		<p>Cost and utilization; <i>My Health Care Options</i> website; annual profile reports on medical, dental, pharmacy claims and eligibility, product and provider are available to the individual carriers</p>	<p>Calculate Total Out-of-Pocket expenses for individuals by Copay/Coinsurance/Deductible amounts; Total Medical Expenses and Relative Prices; Trends in Health Care Utilization; State directive to source initiatives through APCD for Administrative Simplification, rather than through individual agencies' carrier requests, resulting in Report Generation/Analysis for other state Agencies; Actively working with the Group Insurance Commission, the Division of Insurance and the Massachusetts Health Connector as well as under discussion with HIE work groups, Department of Revenue, Attorney General</p>
<p>New Hampshire (2005)</p>	<p>Comprehensive Healthcare Information System (CHIS) for Public Reporting: https://ssl.onpointhealthdata.org/nhracs/index.html</p>	<p>1. Health care quality, access, utilization, cost and expenditures for Medicaid and Commercial Payers.</p>	<p>National Committee for Quality Assurance's (NCQA); Ambulatory Care Sensitive Metrics; Comparisons of child health, access, prevention, care management, utilization and payments across public and private sector; Utilization of inpatient services, including: Inpatient discharge information, median charges, LOS. Utilization of outpatient observation hospital discharges, outpatient emergency department charges per visit, by age and gender.</p>	
		<p>2. Chronic Diseases, Cardiovascular. Mental health, Use and Cost, and Enrollment for MA & Commercial</p>	<p>Health Plan Employer Data and Information Set (HEDIS®). Medicaid high cost area reports by eligibility type, HAA. Commercial high cost distribution medical claims by product type and HHA. CHIP enrollment information, mental health disorders, PMPM by geography, Federal Poverty Level, Major CRG, DX, Age Group, Type</p>	

			of Service. CHIP health care costs, utilization and health status reports.	
		3. ED, Pharmacy Use and cost	Medical and RX payments by type of service	
		4. PMPM Reports	Plan and Member Payments	
		5. Use of data for Insurance Exchange.		Planned.
	New Hampshire Dept of Insurance http://www.nhhealthcost.org	Price of Medical Care and estimated price of medical care for the uninsured in preventive health, ED Visits, Radiology, Surgical Procedures and Maternity	New Hampshire Health Cost consumer website provides information on the price of medical care in New Hampshire by insurance plan and by procedure. It also provides the estimated price of medical care for the uninsured.	See HealthCost website for detailed information on the metrics for each of the five areas covered. There are 11 measures for preventive health; 2 ED Visit measures; 17 radiology measures; 8 common surgical procedures; and 4 maternity measures.
		Plan membership, loss ratios, co-pays and deductibles, richness of benefit package	Employer website contains membership statistics, loss ratios, frequency of benefit design options such as co-pays and deductibles, as well as a Benefit Index Tool which provides information on premium vs. benefit richness.	
Oregon (2010)	None available yet; March 24, 2011 marked the inception of plan reporting.			
Tennessee (2010 expected)	The data within the Tennessee all payer claims database will be available only to authorized persons working for the state of Tennessee and its designated entities. The data will neither be released to the public nor deemed a public record. Additionally, the database will be used for analyzing and public reporting at the statistical population level, not the individual level.			

Utah/Office of Health Care statistics (OHCS)	http://health.utah.gov/hda/pharmacy/RxIndicators2003.pdf	Plan and patient costs for procedures.		See Utah House Bill 9 Data Plan
	"Snapshot of Clinical Performance by Utah Small Area" July 2012	Cost of care for chronic conditions; screening in small areas for diabetes, mental health.	APCD HEDIS Measures: Percentage of total health care costs of the top five chronic conditions.	
	http://utahatlas.health.utah.gov/HB128SA_2010.pdf	Prevalence of antidepressant use for women 18-64	Asthma billed medical costs and amounts paid in Utah by age. Asthma prescription amounts paid by age group.	
		Percent of Costs for Various Healthcare Conditions;	Cholesterol screening (LDL-C), Blood sugar screening (HbA1c); Kidney disease screening (Nephropathy) Diabetes in Small Areas	
		Burden of Illness for Diabetes—medical costs and RX	Episode Costs: Burden of Illness by CRG for Chronic Conditions; Episode costs by CRG and Severity for Diabetes	
Vermont (2008)	<u>Utilization Reports:</u>			
	<i>Vermont Healthcare Utilization & Expenditure Reports—2007, 2008, 2009, 2010 (Released Oct. 2011). See Key Findings & Highlights below for update on new reporting series.</i>	Analyses of cost, utilization, variations in quality, episodes, geographic differences, and risk adjustment.	<u>Utilization-related Measures:</u> For each category of provider or service type, a range of key measures are presented, including the count of total visits, utilization rate, plan payments, member payments, and total payments. Results are broken down by statewide total, hospital service area (HSA), and major insurer. Also, includes HEDIS measures for mental health and substance abuse.	

	<i>Key Findings & Highlights from the Vermont Healthcare Utilization & Expenditure Report: 2007–2010, (Commercially Insured Populations)</i>	Summary measures of cost, utilization, geographic variations, risk adjustment.		Next release scheduled for November 2012 will be in chartbook format that merges the findings from the detailed Utilization & Expenditure Report with the Report Card (noted below) including commercial and Medicaid data through 2011.
	<i>Tri-State Variation in Health Services Utilization & Expenditures in Northern New England (commercially insured pop) – June 2010</i>	Analyzes variation (a proxy for efficiency)	Tri-state Variation Report measures variation in rates of imaging (CT and MRI), inpatient and outpatient care, potentially avoidable outpatient ED visits, non-hospital outpatient visits, chiropractic and osteopathic manipulations; rates of surgeries, including hysterectomy and back surgery.	
	<i>Companion Compendium to the Tri-State Variations Report (released August 2010)</i>	Analyzes variation (a proxy for efficiency)	Measures from the tri-state report by Hospital Service Area (HSA) to display how each Vermont HSA compares to the highest and lowest rates within Vermont and to the aggregate tri-state and state rates.	
	<u>Pharmacy Reports:</u>	Analysis of pharmacy claims for private and government payers.	<u>Pharmacy-related Measures:</u> The Report Card includes an aggregated summary measure of pharmacy utilization and cost for commercial population.	
	<i>The Vermont Report Card for 2008–2010</i>		Average Prescription Drug Membership and Pharmacy Payments by Major Payer; Pharmacy payments were evaluated by the Hospital Service Area (HSA) of residence and presented on a per member per month (PMPM) basis; utilization (days' supply), total payments, and payments per day's supply by major therapeutic categories of drugs for the total VHCURES	

			pharmacy population (including commercial and Medicare Part D; Key contributors driving pharmacy payments; leading categories of drugs.	
	<i>Vermont Pharmacy Reporting — Key Findings & Highlights –Jan 2012</i>		Update of Report Card for 2012	
	<i>Blueprint for Health Evaluation Reports</i>	Utilization, expenditures, claims-based HEDIS measures, and financial model for Vermont's multi-payer primary care medical home program.	Geographic-based utilization rates, per member per month expenditures, process of care measures. A subset of reports with identified data for Medicare beneficiaries will be provided to participating primary care practices under the MAPCP grant.	
		GIS-based reports to define primary care service area based on members and encounters. Provider data from APCD reconciled with other sources of provider data including Blueprint Medical Home Practice Roster, health information exchange practice registration data, state relicensure and professional licensure data files.	Both reports under development for publication in November and December 2012. Mapping and spatial analyses of members, visits, expenditures.	
Washington	Community Check-Up Website for Consumer Use www.wacommunitycheckup.org/upload/media/puget_sound_health_alliance_community_checkup_8_2011.pdf	Medical care process measures; hospital process measures; patient experience	Measures appear to be: HEDIS for Medical Groups(LDL-C, HbA1C, % of patients with diabetes with an eye exam within 2-yr measurement window); CMS measures for Hospitals (Aspirin at Arrival, Aspiring at	

			Discharge, Statins at Discharge, Stents within 90 minutes, etc.); HCAPHS Patient experience of care measures (timely care, communication w/physician, courteous staff, patient rating of provider).	
		Use of generic prescriptions for common medications.	Medication reports on generic prescriptions for antacids, cholesterol-lowering drugs, antidepressants and pain relief (NSAIDS) by medical group against regional average use.	
		NCQA HEDIS measures --Process of care measures for medical groups and hospitals	23 HEDIS measures overall; 19 at the Medical Group Level. See website listed.	
Wisconsin	No public access to reports. Members have access to some information. http://www.wisconsinhealthinfo.org/	Resource Use Measures; Episodes of care.	Provider's costs (resource use) to others of the same specialty by comparing the cost of the mix of ETGs (at the severity level) with the average cost for the specialty for that exact same mix. Uses standard pricing for care delivered—costs compared for units of service and mix of service	