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DATA ANALYTICS IN MEDICAID: SPOTLIGHT ON COLORADO'S ACCOUNTABLE CARE COLLABORATIVE

EXECUTIVE SUMMARY

This first of three case studies examining key operational aspects of coordinated care initiatives in Medicaid focuses on Colorado's Medicaid reform initiative, known as the Accountable Care Collaborative (ACC), and a contract for data analytics that is integral to it. Colorado undertook the ACC initiative to reorient the Medicaid program away from "unmanaged fee-for-service," toward more coordinated care aimed at better outcomes for beneficiaries, improved population health, and reduced costs. It has three core components. ***Primary Care Medical Providers (PCMPs)*** are the medical homes for Medicaid beneficiaries. ***Regional Care Collaborative Organizations*** **(RCCOs)** are responsible for developing networks of PCMPs, providing them with clinical tools and practice redesign support, and employing care managers to work with practices and their patients. RCCOs are accountable to the state for their performance. The ***Statewide Data Analytics Contractor (SDAC)*** – this brief's focus – serves as a data repository and provides actionable data to the PCMPs and RCCOs through a web portal, to support care management and improvement in Medicaid patient and population health. These data resources and capabilities are integral to accountable systems.

STATE DATA ANALYTICS CONTRACTOR (SDAC)

Historically, Colorado relied on a traditional Medicaid Management Information System (MMIS) to manage its Medicaid program, essentially maintaining eligibility lists and paying bills. MMIS are not typically designed to generate actionable data analysis that can help practices or other entities profile patients, understand utilization and spending patterns, target efforts to improve care, or measure performance. The SDAC greatly enhances the usefulness of Medicaid data for care management and other program purposes. It takes raw Medicaid eligibility and claims data from Colorado's MMIS and pools them to create a data warehouse, which is refreshed monthly, and provides data analytics through an online portal to the RCCOs, the PCMPs, and the state, on metrics of interest to these users. The SDAC's design and portal are structured to support care management at the level of the individual patient, the PCMP, and the region. Predictive modeling is used to risk-adjust metrics, and the categorization of patients into risk groups based on their Medicaid claims enables PCMPs and RCCOs to identify those with high needs and focus care management efforts. Another key SDAC function is to attribute (or assign) Medicaid beneficiaries to PCMPs if they don't choose one on their own.

KEY THEMES

- **Data analytics are fundamental to accountable care.** Accountable care models encourage and expect providers to work together and take responsibility for the entire population or area they serve. Common

metrics, adjusted for risk, provide a means to track performance, establish accountability, and fairly distribute incentive payments linked to performance. Risk stratification allows care management resources to be targeted. The ACC's regional structure and flexible use of the SDAC by the RCCOs have accommodated variation in the extent of care integration and sophistication of health information technology across regions.

- **Attribution of Medicaid beneficiaries presents unique challenges.** When beneficiaries do not choose a PCMP on their own, Colorado uses Medicaid claims data to attribute them to one with whom they appear to have a relationship already. Several challenges to attribution emerged. Identifying primary care providers from claims can be difficult because billing entities may be practices or health systems rather than individual providers. The attribution of patients who see multiple providers often did not correspond to providers' view of who their patients were. Also, RCCO efforts to connect all Medicaid beneficiaries with PCMPs are complicated by federal rules that are aimed at protecting Medicaid beneficiaries against marketing abuses; these rules prevent RCCOs from reaching out to beneficiaries who are not yet enrolled in the ACC, even though the RCCOs are contractually responsible for care coordination for them.
- **Disruptions in Medicaid coverage result in data gaps**. Users of the SDAC data portal can only see data for Medicaid beneficiaries who are currently enrolled in the ACC program. Turnover in Medicaid eligibility is, therefore, an obstacle to continuous care management for this population.
- **States face important contracting considerations.** It is desirable for a contractor to have not only the needed technical expertise, but also a grasp of data's role in transforming care delivery. Also, while Medicaid programs can expect a learning curve with any contractor, an awareness of how patient needs, data, and priority concerns may differ between Medicaid and the commercial market is an asset in a contractor. A local firm or one with local staff may have advantages. A strong state role in determining key Medicaid contractor personnel is also an important consideration.
- **Behavioral health "carve-outs" in Medicaid impede key data linkages.** Although the SDAC is responsible for linking data on behavioral health encounters to Medicaid claims data, this linkage can be challenging because, in most of Colorado (and many other states), behavioral health services in Medicaid are provided through a separate, capitated behavioral health "carve-out." Patient privacy safeguards, confusion about what data can be shared and with whom, and the siloed systems for physical and behavioral health care all pose barriers. In most regions, RCCOs have to negotiate their own agreements with behavioral health organizations (BHOs) to obtain access to behavioral health data. This task can be challenging, and the fact that the RCCOs and BHOs do not necessarily have common geographic boundaries can complicate the effort.

Looking Ahead

The health care environment in Colorado is very fluid. The state is strongly committed to the ACC program and continues to view the RCCOs, PCMPs, and SDAC as critical elements. Colorado's reform enterprise is likely to evolve, potentially toward a more comprehensive and integrated approach to providing data analytics support to the Medicaid program. Regardless of the direction Medicaid reform takes, however, data analytics will be a fundamental pillar of accountable care. As the ACC program matures, the analytics that undergird it will need to evolve, too, to support the increasingly sophisticated approaches of users of Medicaid data to drive improvements in care.

INTRODUCTION

In recent years, a growing number of states have undertaken major delivery system reforms in Medicaid, seeking to improve care coordination and health outcomes for Medicaid beneficiaries and reduce spending growth in the program. To help inform the development of such initiatives in other places, the Kaiser Commission on Medicaid and the Uninsured (KCMU) worked with Mathematica Policy Research (Mathematica) to examine key operational features of coordinated care initiatives in Medicaid in three states – Colorado, North Carolina, and Rhode Island. This first of three planned issue briefs focuses on Colorado's Accountable Care Collaborative (ACC) – specifically, on the contract for data and analytics that is integral to its operation. The information and perspectives presented here are based on a review of ACC program documents, one-hour telephone interviews with key informants in the ACC leadership, and an introductory learning session that the data analytics contractor provides for users of its tools.

OVERVIEW OF COLORADO'S ACCOUNTABLE CARE COLLABORATIVE

In the late 2000's, more than 80% of Colorado's Medicaid beneficiaries received their care in what the state characterized as an unmanaged fee-for-service system.[1] Earlier capitated managed care initiatives had been viewed as failures by the state.[2] It was against this backdrop that Colorado developed a Medicaid reform initiative known as the Accountable Care Collaborative, or ACC. Designed to reorient the Medicaid program away from the "higher utilization" path the state believed it was on, but preserving the fee-for-service model, the ACC seeks to foster more coordinated care for Medicaid beneficiaries and improve health outcomes, reduce costs, improve client and provider experience, provide a focal point of care for all clients, and, in the words of state officials, introduce "unprecedented data and analytics." The ACC has three core components:

- *Primary Care Medical Providers (PCMPs)* are the focal point of care, or medical home, for Medicaid beneficiaries, and they are responsible for providing Medicaid enrollees with timely access to primary care. In addition to fee-for-service payments, PCMP practices receive $4 per member, per month (PMPM) to provide medical home services to Medicaid beneficiaries assigned to their practice. Medicaid beneficiaries with claims history are assigned a PCMP based on an "attribution" methodology that takes into account beneficiaries' utilization patterns as reflected in paid Medicaid claims, but they have the option to select a different PCMP if they prefer. Those without a claims history are enrolled in the program, but without a primary care link, and are asked to select a primary care provider. Beginning July 1, 2012, $1 of the $4 PMPM is reserved for an incentive pool that is paid out based on performance on specified metrics.
- *Regional Care Collaborative Organizations* (RCCOs) are responsible for developing regional networks of PCMPs, and for managing and supporting these PCMPs by providing them with clinical tools and administrative and practice redesign support. RCCOs must also ensure that all clients (i.e., beneficiaries) receive an appropriate level of care management, and RCCOs employ care managers to work with PCMP practices and their patients to this end. To accommodate geographic diversity, Colorado Medicaid officials divided the state into seven regions. A RCCO was selected for each region through a competitive process. RCCOs represent geographical units whose performance can be measured and are entities that the state can hold accountable for performance.

Ultimately, five organizations were selected to function as RCCOs across the state (one organization serves three contiguous regions). Each RCCO has the flexibility to adapt the common design embodied in the ACC program to suit the unique conditions in its region. For example, behavioral health care is "carved out" and financed on a capitation basis, and RCCOs have formed different relationships with the behavioral health organizations (BHOs) to support care management. Currently, RCCOs are paid $8 to $10 PMPM, of which $1 goes into an incentive pool. RCCOs are accountable to the state not just for Medicaid beneficiaries attributed to the PCMPs in their region, but also for those who have used no services and were thus not connected to care; because the RCCOs are now accountable for their care, they would like to connect these beneficiaries with a PCMP practice. The funds in both the PCMP and RCCO incentive pools are allocated based on improvement on four key performance indicators: 30-day inpatient hospital readmissions, emergency room visits per 1,000 enrollees per year, use of high-cost imaging and, since July 2013, well-child visits.

- The *Statewide Data Analytics Contractor (SDAC),* the focus of this case study, is responsible for providing the state, the RCCOs, and PCMPs with actionable data – at the patient level, to support care management activities, and at the population level, to support, evaluate, and improve the program – via an online portal. Colorado viewed the SDAC as a means of ensuring that the RCCOs and the PCMPs in each region, including primary care practices that, in many parts of the state, are relatively small and have limited analytic and care management capacity, have access to both the patient- and population-level data and information needed to manage and improve care. As discussed in more depth later, the SDAC serves as a data repository that provides web-based access to analytics and reporting that RCCOs and PCMPs can use to improve care and that support accountability.

The ACC, originally called the Colorado Value-Based Care Coordination Initiative, was authorized by the Colorado state legislature in 2009 and implemented on a pilot basis in May 2011.[3] With cost pressures in the state rising, the ACC pilot was expanded rapidly. By June 2013, nearly 350,000 Medicaid beneficiaries, or more than 50% of the total state Medicaid population, were enrolled in the ACC program. Two-thirds were children and one-third were adults. Medicaid beneficiaries who are institutionalized and those who are dually eligible for Medicare and Medicaid are eligible to participate in the ACC program but are not actively enrolled in it. However, beneficiaries who become institutionalized or dually eligible subsequent to their enrollment in the ACC can remain enrolled. Colorado state officials estimate that, in 2013, 75.1% of Medicaid beneficiaries enrolled in the ACC program were linked to a PCMP.

STATE DATA ANALYTICS CONTRACTOR

The State Data Analytics Contractor (SDAC) is integral to the ACC program. One state official in the ACC leadership articulated why: "For accountable care, you need standardized, risk-adjusted measures to hold providers accountable for clinical performance; and to improve clinical performance, providers need actionable data." Colorado, like many states, has historically relied on a traditional Medicaid Management Information System (MMIS), essentially maintaining eligibility lists and paying bills to fee-for-service providers.[4] Traditionally, MMIS are designed to run batch processes, such as updating enrollment or paying claims. But MMIS are not typically designed to provide analytic support or intelligence by organizing the data in ways that can help a medical practice or other entity understand the profiles of different patient populations and their

utilization and spending patterns and trends, design and target efforts to improve care or other aspects of program management, and measure improvement toward goals. This is where the SDAC comes in.

The SDAC takes the raw Medicaid eligibility and paid claims data from Colorado's MMIS and pools them to create a data warehouse, refreshing or updating the data on a monthly basis. Then, drawing on this data base, it provides data analytics through the online portal to the RCCOs, the PCMPs, and the state, on metrics of interest to these users. This centralized approach to data analytics is designed to provide all regions of the state with a standardized set of actionable data to support transformation in the delivery of care. Data from the warehouse are accessed and used in various ways to support the RCCOs, the PCMPs, and the ACC program overall. While the market for data analytics along these lines has since grown, such services were a relatively new concept when Colorado Medicaid officials first envisioned the SDAC. State staff now consider the SDAC essential and say that, without it, it would be impossible to implement the ACC program. While, ultimately, the data potentially available from electronic health records (EHRs) and health information exchanges will further guide efforts to improve care management and coordination, the adoption and maturity of EHRs and exchange of clinical data vary across the state; in many regions of Colorado, use of EHRs is reportedly relatively limited, and few systems permit the exchange of data among providers who often serve different areas. (Western Colorado, where the Quality Health Network operates, is one exception).The Medicaid eligibility and claims data accessible through the SDAC portal are the first common data on Medicaid beneficiaries that have been available to the RCCOS and many PCMPs in Colorado, and the data analytics represent a powerful new tool to support practice transformation as well as management and oversight of the ACC program.

The SDAC contract was awarded through a competitive bidding process in which multiple, diverse organizations bid. The contractor is a privately owned company. According to its website, its focus is on helping payers and providers improve performance and health outcomes. The firm is not local to Colorado, but it maintains a Denver office. State documents show that the cost of the SDAC was $2.7 million for the year beginning July 2011.[5]

The SDAC's design and portal is structured to support care management at the individual Medicaid patient level, and also at the level of the PCMP practice, of subgroups of patients with particular use patterns or needs, and of the region. Predictive modeling is used to risk-adjust performance metrics, and the categorization of patients into different risk groups, based on their paid Medicaid claims, enables PCMPs and RCCOs to identify those with greater health care needs and focus care management efforts more rationally and effectively. The performance metrics in the ACC program, which focus on potentially preventable utilization and costs and preventive care, reflect the original impetus for the program to control Colorado's Medicaid costs and improve care. The box in the Appendix broadly outlines how the state's requirements are configured on the SDAC portal to meet the needs of its core users, the RCCOs and PCMP practices.

Key functions of the SDAC, delineated in the contract, include the following (described in abbreviated form):

- **Attribution of clients to PCMPs.** Using an approved attribution methodology, the SDAC is responsible for attributing (i.e., assigning) eligible Medicaid beneficiaries to participating PCMPs. On a weekly basis, the SDAC also gets information from the state on changes in eligibility. As prescribed by the state, the attribution methodology considers the beneficiary's geographic location and current providers, and it seeks to keep

families together when possible. The SDAC is required to make assignments in a risk-neutral way that does not vary with health status or eligibility category. The SDAC also takes into account provider preferences regarding panel size.

- **Web portal.** The SDAC provides an online portal with secure access that state Medicaid staff and PCMP and RCCO staff can use to access data, information, and reports. The portal includes a browser, dashboard, actionable statistics on utilization and performance, real-time desk support with answers to frequently asked questions, and a disaster recovery plan. The state requires the portal to be available 24/7, except for scheduled maintenance.
- **Data repository.** The original structure for the SDAC data repository was built around MMIS claims data. The SDAC contractor received three years of MMIS data to develop the base repository; it obtains regular updates, so the repository is relatively current with beneficiary claims experience. The contractor is responsible for validating, maintaining, and backing up the repository, and for controlling access to the data using appropriate security and access standards. State Medicaid staff indicated that they were able to get the SDAC data repository and portal operational nearly within the timeframe originally set. State officials plan that, in future years, the data repository will also include additional data on patients developed by RCCOs for care management, public health data, and clinical and health outcomes data, but for the most part these enhancements are not yet in effect. In addition, work is underway to explore how to provide users with more timely data on hospital utilization, potentially improving care management capability.
- **Analytics and analytic suite.** The SDAC is responsible for developing monthly utilization and spending metrics based on a plan approved by the state. "Analytics" involve metrics (see Appendix) displayed in different ways to support user needs. For example, the metrics may be trended over time (e.g., is performance improving or declining?) or reflect comparison against a benchmark or target (e.g., actual versus budgeted spending). Different metrics apply to different types of users, to reflect the nature and scope of their responsibilities. PCMP practices get patient, provider, and provider panel data, while RCCO metrics summarize performance across all enrolled Medicaid patients in the region. The SDAC contractor is also responsible for providing users with appropriate training on how to use these metrics.

  The "analytic suite" includes predictive modeling that allows RCCOs and PCMPs to identify high-risk patients. It also provides data to help RCCOs and PCMPs assess their clinical processes to determine where they are making progress and where they may need to focus more of their resources. Further, it reports aggregate data on a risk-adjusted basis to help the RCCOs and the state understand how the program is doing both at the regional level and statewide. The suite is configured to allow users to modify the parameters to better match their needs. Also, the SDAC contractor reserves a pool of staff hours to conduct targeted analyses specified by state officials on an ongoing basis. State staff say that the flexibility to request specific analyses has been particularly valuable to them. They use the hours not just for analysis strictly relevant to the ACC program, but also, at times, to consider broader Medicaid policy issues – for example, to learn more about long-term care use by the ACC population. Long-term care is not now a part of the ACC program, but that could change in the future.
- **Accountability and continuous improvement.** The SDAC contractor is responsible for using the data repository to calculate annually whether the ACC program has achieved budget neutrality or not and met other cost goals. The results must be reported to the state legislature. The contractor also assists the state in disseminating best or promising provider performance data and analytics and helps to identify barriers to

their adoption and ways of overcoming them. The SDAC contractor staff participate in various advisory and oversight committees for the ACC program. State officials observed that, while the contractor is responsible for accountability and continuous improvement activities at the technical level, the responsibility for consistent vigilance and policy guidance resides with the state.

Both RCCOs and PCMPs have flexibility as to whether and how they use the data available through the SDAC portal. Many RCCOs say they rely on the portal; at least one RCCO, which has a well-developed information system and maintains its own portal, downloads data from the SDAC repository and shares it with its PCMP practices directly through its own portal. The SDAC's use of paid claims-based data means an inevitable three- to four-month lag in data availability relative to real-time, even though the contractor processes and updates metrics within 30 days of receiving the data from the state. Given lags in the data, the state expected from the beginning that care managers might supplement the SDAC data with patient information from other sources. Use of data through the SDAC portal varies from practice to practice. Some of the variation likely relates to the share of all patients in a practice who are Medicaid beneficiaries. For example, health centers, which largely serve Medicaid and uninsured patients, are more likely to make use of the SDAC data than PCMP practices that have few Medicaid patients.

How might the SDAC evolve?

While remaining central to the ACC, the SDAC is likely to evolve as state goals and the larger health care environment within Colorado evolve. One potential source of change relates to current efforts by the state to reconfigure its overall information support for Medicaid through the Colorado Medicaid Management Innovation and Transformation (COMMIT) project. The state's long-term strategy is to develop a state-of-the-art, federally certifiable MMIS that is integrated into a broader system that can provide business intelligence and data support functions like those now performed by the SDAC for the ACC.[6] It is not yet clear whether, as COMMIT takes shape, the SDAC will remain independent, or its functions will be assumed by the broader system, or some combination of these two alternatives will emerge. Colorado is now in the process of releasing for comment various requests for proposals (RFPs) from contractors to support the system. The current draft RFP indicates that COMMIT will assume contractual responsibility for supporting ACC program reporting.[7] The state plans to renew the SDAC contract, which expires in June 2014, through June 2016 (subject to negotiation), with an option to extend it for another year. The extension will provide continuity, at least until COMMIT is further developed and it is clearer how SDAC functionalities can or should be integrated within the broader COMMIT structure.

A second source of potential change relates to how health information technology within Colorado might evolve and what that might mean for the functionalities the SDAC supports, particularly those geared to individual patient management. In Colorado as in other places, stakeholders are considering how efforts to improve clinical care based on claims data can be informed further by real-time exchange of information maintained in EHRs. Many believe that care management for individual patients driven by claims data could be improved with the addition of such information, which is more timely, contains more clinically relevant detail, and is available regardless of changes in patients' source of health coverage – an important advantage given the turnover in Medicaid eligibility. Because some regions of Colorado are less far along technologically than others and many of the state's physicians still lack EHRs, there is not statewide capacity to go to this approach right now. But as more providers adopt EHRs, and ways to exchange data electronically advance further, health

information exchanges, if they also integrated claims data, could support some of the functions now handled by the SDAC contractor.

KEY THEMES

Attribution of Medicaid beneficiaries to PCMPs presents technical and policy challenges.

Accountable care requires a capacity to define the populations for whom specific medical practices can be held accountable. While one approach to assigning or attributing patients to practices is to have individuals choose their own primary care provider, historically, such voluntary models have often yielded relatively low rates of response, leaving states to rely heavily on some system of default assignment. As some other states do, Colorado reviews Medicaid claims-based utilization data for individuals who do not voluntarily sign up with a particular provider so that it can attribute beneficiaries who appear to have a relationship with a provider to that provider. In Colorado, this procedure ran into technical obstacles because the MMIS did not indicate whether a beneficiary's provider was a primary care provider. Also, it is sometimes difficult to identify primary care providers from records of Medicaid billing entities, which may be practices or health systems rather than individual providers. A bigger long-term issue is that attribution lists did not always correspond with providers' view of who their patients were, particularly in the case of their patients who also used other providers and might, therefore, not have been assigned to them. By the same token, a patient who last saw a provider two years ago might still consider that provider to be his or her medical home. The SDAC, which follows state-established policies on attribution, was asked to meet with individual providers to explain how the attribution protocol works. States considering initiatives similar to Colorado's might anticipate this issue and develop policy concerning whether and when algorithm-based assignment can be overridden. There was broad agreement that communication with providers early on is critical to establish shared expectations.

From the RCCOs' perspective, the major challenge associated with attribution concerns how to manage care for non-users – that is, Medicaid beneficiaries who have not used health services. These beneficiaries are not attributed to a PCMP practice up-front under the ACC's rules, but go into what one interviewee called the "unattributed black hole." But the RCCO is still accountable for these individuals and for finding them a medical home. The RCCOs reported that outreach to non-users is difficult because these beneficiaries generally do not have extensive interaction with the state and their contact information is often incorrect. In addition, they can conduct outreach only to clients who are already enrolled in the ACC. RCCO efforts to connect beneficiaries not yet enrolled in the ACC with PCMPs are considered to be marketing activity, which is subject to significant federal regulations designed to protect Medicaid beneficiaries against marketing abuses. Therefore, innovative RCCO strategies to link non-users with PCMPs – for example, by taking advantage of emergency room visits as opportunities to connect patients with primary care providers – must be careful to engage only those who are already enrolled in the ACC, even though the RCCOs are also contractually responsible for care coordination for those who are not yet enrolled in the ACC.

Data analytics are fundamental to accountable care arrangements.

Accountable care models like Colorado's ACC aim to encourage providers to work together and take responsibility not just for the care of those who present for medical attention, but for the entire population served by their practice or in a larger geographic region. The SDAC permits Medicaid eligibility and claims data to be pooled across care settings to develop profiles of individuals and populations that can be used to improve

clinical care. Common metrics, adjusted for risk, provide a means to track performance, establish accountability at various levels, and fairly distribute incentive payments linked to performance. Also, the ability to stratify the population by risk or health care need allows for targeting of care management resources. While the claims data are lagged, the availability of historical data on individual Medicaid beneficiaries' utilization clearly holds value for guiding their care prospectively. There may be many ways to structure systems that pool data across providers on the care that individual patients receive, but some capacity to provide the kind of data analytics the SDAC offers is essential to support the accountable care model.

Medicaid claims data are often the main or only source of data available, and they have the advantage of providing linked information on utilization and costs. We were unable to interview staff from individual PCMP practices to gain their perspectives, but the state officials and RCCO leaders with whom we spoke expressed how essential the inclusion of the SDAC in the ACC initiative was to their ability to improve performance. This support was evident across regions with different levels of sophistication vis-à-vis their access to and use of data analytics. The ACC program's regional structure and the flexible way in which the SDAC has been used to support RCCOs have proved important in helping Colorado level the playing field across the state despite considerable regional variation in the extent of care integration and the sophistication of health information technology.

States face important contracting considerations.

State officials observed that it is important to use the contracting process to identify a data analytics contractor that understands state needs and the state's vision of how an SDAC-like system would be used. For Colorado, this meant seeking not just technical expertise in particular functions, such as data warehousing and risk adjustment, but also experts who grasped the broader goal of "transforming health care and the transformative power of data to do that." The firm that won the SDAC contract had a medical director, unlike most vendors in the technical sector. Selection of a firm with local staff, even if it is not a local firm, may have important advantages. State officials said that the co-location of contractors in state facilities would be even more desirable, but this arrangement does not exist in Colorado. A strong state role in determining key contractor personnel was also cited as an important consideration.

The market for data analytics in health care is much more developed now than it was when Colorado bid its contract. State officials noted that, while states should expect a learning curve with any contractor, the curve can be less steep if the data analytics contractor has some awareness of how Medicaid patient needs and data may be different relative to commercial markets. For example, although inpatient care is important in Medicaid as for other insurers, it is a less critical focus of care management than outpatient care for certain populations, including mothers and young children, and persons with chronic mental illness or disability, that are heavily represented in Medicaid.

Promoting data-driven care management in Medicaid presents unique issues.

From our interviews, we identified two important challenges to using data analytics optimally to support the transformation of care delivery in Medicaid. They arise from issues that are unique to Medicaid.

- **Discontinuities in Medicaid eligibility**. For legal reasons, users of the SDAC data portal can only see data for Medicaid beneficiaries who are currently enrolled in the ACC program. This limitation can pose a

barrier to continuous management of care by PCMP practices because patients' eligibility for Medicaid may fluctuate over time.

- **Integrating behavioral health data.** Although state officials noted that linking data on behavioral health encounters to claims data is part of the SDAC's responsibilities, RCCO staff indicated that the integration of behavioral health data can be challenging in the Medicaid context because, in most regions of Colorado, behavioral health services in Medicaid are "carved out," meaning that they are delivered and financed separately, through a Behavioral Health Organization (BHO). (Numerous other state Medicaid programs also have behavioral health carve-outs.) While the SDAC includes some behavioral health data based on claims, these data are incomplete. Federal law precludes sharing of some kinds of data, including data on receipt of substance abuse services, and those interviewed indicated that uncertainty and confusion about the kinds of data that may or may not be shared under HIPPA and state law, and with whom, are a barrier. The RCCOs also highlighted that current efforts to integrate behavioral and physical health data and care take place against a backdrop of separate payment streams and patient accountability for care in these two spheres. In all regions of Colorado, except for one where a Medicaid MCO provides both physical and behavioral health services, RCCOs generally have to negotiate their own agreements with BHOs to obtain access to behavioral health data. This task can be challenging, and the fact that the RCCOs and BHOs do not necessarily have common geographic boundaries can further complicate the effort.

Data analytics support needs to reflect end goals.

Ideally, the data analytics in which a state invests should reflect the state's long-term strategy and goals, not just short-term needs. In Colorado, policymakers and stakeholders are actively debating what kind of data analytics would be most useful and also feasible moving forward. As noted previously, the state affirmed that the SDAC is valuable, but wants to integrate its functionality into a more comprehensive approach to providing data analytics support for the Medicaid program. Simultaneously, the state is considering broader strategic directions, such as the development of health information exchanges, and this activity is occurring in an environment in which various multi-payer initiatives are underway. Many of those we interviewed thought that, ultimately, some of the functions performed by the SDAC using Medicaid claims data could be performed better by a health information exchange built around EHRs. But, currently, the capacity to do so is uneven across the state and underdeveloped particularly outside the western part of the state. Many hope that the regional infrastructures in the Colorado Regional Health Information Organization (CORHIO) and Quality Health Network (QHN) will become more robust, permitting the use of electronic health data to support some of the SDAC's functions. However, others wonder how realistic that might prove to be in their region of the state.

CONCLUSION

As in many parts of the country, the health care environment in Colorado is very fluid. Our interviews suggest that Colorado remains strongly committed to the Medicaid ACC program and continues to view the RCCOs, PCMPs, and SDAC as critical elements of the state's delivery system reform efforts. But it is almost inevitable that the reform enterprise will evolve in ways that are not yet clear. For example, in our discussion with RCCO directors, some viewed the RCCOs as a base on which more integrated systems can be built, while others were concerned that further integration poses too many challenges in some regions of the state or runs the risk of failing, as Colorado perceives capitated managed care to have done earlier in the state's experience. Also,

perspectives vary on whether Colorado should ultimately require or encourage RCCOs to become risk-based entities with their providers.

Regardless of the particular direction reform takes in Colorado's Medicaid program, state officials view the ACC program as a significant part of the Colorado's Medicaid landscape, and the data analytics provided by the SDAC as a fundamental pillar of accountable care. The state's effort to use and help the RCCOs and providers use data analytics to support care management, as well as important current challenges, including data lags and obstacles to integrating behavioral health data, are instructive for other states moving in the direction of more integrated and accountable care in Medicaid. As the state program matures and goals evolve, it will be important for the data analytics that undergird the current system to evolve as well, to support the changing, increasingly sophisticated approaches of users of Medicaid data to drive improvements in care.

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Appendix: Overview of the SDAC Portal Structure, Metrics, and Reports

LANDING PAGE: Here, users can find information about the contractor and accountable care, with links to tools (e.g., for population management) and definitions of key terms (e.g., risk adjustment). There is also a blog where the contractor's clients (including Colorado Medicaid), consultants, and others can post about trends in accountable care and what is working, as well as links to the dashboard (see below) and other resources (e.g., technical documentation).

DASHBOARD: The dashboard is an interface that is customized by user type. It provides data appropriate to the type of user and at the appropriate level. Both RCCOs and PCMPs can see who is attributed to their region or practice and the average risk score of the enrollees attributed to them. RCCOs see data on metrics for the entire population for which they are accountable in their region, while PCMPs see data for the patient population attributed to their practices.

METRICS: RCCO- and PCMP-level performance on specified metrics is determined on the basis of Medicaid claims linked to enrollment data. The claims data are refreshed monthly, but lag behind real-time by 3 to 4 months due to delays in claims submission. Metrics are expressed on both on a rolling 12-month and year-to-date basis. Users can "drill down" to see both budgeted and actual average spending per patient on a risk-adjusted basis.

Key performance indicators (used to allocate incentive payments for PCMPs and RCCOs):

- Percent improvement in 30-day readmissions
- Percent improvement in ER visits
- Percent improvement in high-cost imaging
- Percent improvement in well-child visits

Cost metrics (Medicaid spending per attributed beneficiary):

- Per member per month spending (can drill down to four types of service)
- Variance from budgeted spending (per member per month)

Potentially preventable events:

- Spending for preventable events
- Readmissions/1,000/year
- Admissions/1,000/year
- Visits/1,000/year
- Services/1,000/year

Prescription drug utilization:

- Prescriptions/1,000/year
- Percent of prescriptions that are generic

PRACTICE-LEVEL DATA. A key ACC program objective is to encourage practices to focus attention on those with the greatest needs. PCMP practices can download individual-level data in Excel format, with the ability to sort their attributed patients by categories including patient name, diagnosis, risk score, cost, and others. Patient data can also be sorted in other ways, for example, by emergency room users. PCMPs can also stratify patients by five risk categories (defined by the SDAC based on claims data) to better understand their practices, look more closely at utilization and spending by different kinds of patients, and use the results to identify and prioritize individuals for care management. The risk categories are: 1) healthy/non-users; 2) those with a catastrophic event (e.g., malignancies, rare and usually high-cost events); 3) women who are pregnant or recently delivered; 4) those with a moderate to major chronic condition; and 5) those with a minor chronic condition. Users can create tables that list patients in a specified category, along with selected information on that patient (e.g., use, diagnosis, risk score, cost of care based on claims). These lists can then be used for patient-specific follow-up.

PATIENT PROFILE TOOL: A PCMP practice can query the system by patient identification number to find out if the patient is in its panel, or enrolled in Medicaid but not in its panel. The practice can see the claims history associated with the individual patients attributed to them.

CARE MANAGEMENT REPORTS. Care managers can access all paid Medicaid claims nearly in real-time (taking into account the lag) to identify particular patients in a PCMP practice (e.g., patients newly discharged from hospital with no follow-up; patients with no office visit in past six months).

ENDNOTES

[1] *Understanding the ACC program*, Colorado Department of Health Care Policy & Financing, Medicaid Program Division. (Undated) http://www.colorado.gov/cs/Satellite?blobcol=urldata&blobheader=application%2Fpdf&blobkey=id&blobtable=MungoBlobs&blobwhere=1251785091456&ssbinary=true, Accessed on May 29, 2013.

[2] Marsha Gold, Jessica Nysenbaum, and Sonya Streeter, *Emerging Medicaid Accountable Care Organizations: The Role of Managed Care*, Kaiser Commission on Medicaid and the Uninsured, May 2012. http://www.kff.org/health-costs/issue-brief/emerging-medicaid-accountable-care-organizations-the-role/

[3] *Report to the Joint Budget Committee: Accountable Care Collaborative Annual Report*, Colorado Department of Health Care Policy & Financing, November 1, 2012. http://www.colorado.gov/cs/Satellite?c=Document_C&childpagename=HCPF%2FDocument_C%2FHCPFAddLink&cid=1251633513486&pagename=HCPFWrapper, Accessed on May 29, 2013.

[4] *Colorado Business Intelligence/Data Management (BIDM) Draft RFP Release* for the Colorado Medicaid Management Innovation and Transformation Project (COMMIT), Colorado Department of Health Care Policy and Financing, Released May 24, 2013.

[5] *Report to the Joint Budget Committee op. cit.*

[6] Based on initial papers released for comment, COMMIT will integrate the MMIS with Colorado's systems that support pharmacy benefit management and create new capacity for business intelligence and data management. Colorado is in the process of issuing RFPs that will support the various components of this broader system. For example, on May 24, 2013, Colorado released for comment a draft RFP for the business intelligence and data management (BIDM) component.

[7] According to the draft RFP, these responsibilities include replacement of the current SDAC contract functionality, support for ACC goals and metrics, full integration with the business intelligence and analytical solution implementation, integrating with existing Department systems and real-time interfaces with the Benefits Utilization System, client selection, attribution and roster report, incentive payments, and routine report maintenance and support.