Challenges with encounter data quality and timeliness have implications for individual managed care organizations’ success in today’s health care market; for the delegated HMO model’s sustainability relative to fee-for-service products; and for the broader drive toward quality and cost transparency.

Challenges in the collection and exchange of encounter data hinder the ability of California health plans and physician organizations (POs) to operate efficiently, transparently and successfully under the capitated, delegated health maintenance organization (HMO) model. Demonstrating strong quality relative to other products,1 this model—where health plans capitate physician organizations (medical group or IPA) and delegate utilization management and other care-management responsibilities to them—relies on encounter data to track health care quality and costs and to adjust provider payment levels. Complete, timely and accurate encounter data are critical to risk-adjusting provider payments to account for health differences in patient populations. Yet, provider payment incentives, multiple data handoffs and variation in data collection hamper exchange of encounter data among contracting parties. This issue brief examines barriers to capturing high-quality encounter data and describes quality improvement efforts by California payers, providers, and data intermediaries. These efforts, which focus on process improvement, incentives and system redesign, hold promise for California and beyond as regulators, payers and providers seek to expand value and transparency in health care delivery.

ENCOUNTER DATA DEFINED

According to the glossary available at cms.gov, encounter data are “detailed data about individual services provided by a capitated managed care entity. The level of detail about each service reported is similar to that of a standard claim form.”

Since the inception of the managed care delivery system, California payers that are not part of an integrated health care system have transferred professional financial risk to physician organizations. In such financial arrangements, HMOs distribute prospective payment to POs in the form of capitation, and POs in turn pay providers for care through a variety of arrangements, including sub-capitation, fee-for-service, salaries, and performance bonuses. Instead of filing claims for fee-for-service payment, POs are contractually obligated to submit encounter data to health plans.
The prevalence in California of high-deductible health plans requires timely and accurate tracking of services provided and member contributions to cost-sharing.

The rapid growth of membership in managed Medi-Cal, driven largely by the ACA.

The push by California legislators and policy makers toward health care cost and quality transparency.

Complete encounter data can significantly affect health plan and provider risk scores, which in turn influence market competitiveness as risk adjustment plays a larger role in payment. A recent IHA analysis of Value-Based Pay for Performance data shows a positive correlation (+0.3963, p<0.0001) between reported encounter volume per member, per year and risk scores (see Figure 1). The findings underscore the importance of capturing all encounters in data submission. High encounter volume reflects utilization by a sicker population. It may also reflect that organizations that do a better job of capturing and transmitting encounter records have more complete diagnoses for their patient populations, translating into higher risk scores.

Given the heightened importance of encounter data in the provision of integrated care, it is critical to identify and address the key barriers to data flow. In spring 2015,

<table>
<thead>
<tr>
<th>Uses of Encounter Data</th>
<th>Encounter Data Provides . . .</th>
<th>Examples</th>
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<tr>
<td>Risk adjustment</td>
<td>. . . information on population acuity via diagnosis documentation</td>
<td>▪ Covered California risk-based redistribution of funds</td>
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<td>▪ Medicare Advantage risk-adjusted capitation paid to plans by CMS</td>
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<td>Performance measurement and incentive programs</td>
<td>. . . data for common quality measures on prevention, screening and management in high-risk populations</td>
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<td>Consumer cost-sharing</td>
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<td>Transparency</td>
<td>. . . information to identify the complete picture of services provided to enrollees</td>
<td>▪ Detailed information for self-insured employers on utilization and costs for rate-setting, benefit design and provider selection</td>
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<td></td>
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<td>▪ All-payer claims databases</td>
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<td>▪ Public reporting of quality, resource use</td>
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IHA interviewed physician organizations, health plans and others, along with reviewing the published literature and online resources, to identify central impediments to successful encounter data exchange (see Appendix). The project focused on professional and facility encounters, not ancillary data such as laboratory and pharmacy encounters—although respondents identified a need for improved ancillary data exchange. The findings show that barriers to high-quality encounter data center on limited financial incentives for providers to submit complete and timely encounter information; multiple handoffs of data files among contracting parties that lead to data drop off; and variation in all aspects of the data exchange process that adds confusion and administrative burden.

**BARRIERS TO COMPLETE AND TIMELY EXCHANGE OF ENCOUNTER DATA**

**Provider Payment Incentives**

In fee-for-service payment arrangements, such as in preferred provider organization (PPO) products, the provider of care must submit a claim for payment to be reimbursed for each service. In the capitated-HMO model, plans pay providers prospectively, so information about utilization, costs and patient illness is not directly tied to reimbursement. In such a model, the physician organizations are not as motivated to submit complete and timely encounter data to the plan as they would be if they were awaiting payment for services already rendered.

A different incentive dynamic is at play for federally qualified health centers (FQHCs), which are reimbursed through a prospective payment system for patients covered by Medicare and Medicaid. FQHCs receive a payment for each qualifying visit, regardless of the services provided. Under this system, health centers are not highly motivated to transmit records of the multiple services that may be provided during a patient visit.

**Multiple Data Handoffs**

As payment flows from purchasers to health plans, POs and providers, information about services rendered, the cost of those services and patient illness burden flows in the opposite direction. Multiple encounter data handoffs and rejection points increase the chance that information will be lost along the way.

Figure 2 illustrates the flow of payment and encounter data for risk-based payment in a typical independent practice association, but both encounter data exchange and payment arrangements can vary:

- Direct data submission sometimes replaces the use of clearinghouses.
- Physicians can be employed and salaried by POs; in such arrangements, claims for payment are not a part of the physician practice’s business operations, but encounters are created to meet the needs of purchasers.
- There are also encounter data for capitated hospital services.
Community health centers, including FQHCs, play a growing role in the care continuum, with the expansion of Medi-Cal.

At each handoff of data files from one contracted party to another, there is usually an intermediary, known as a clearinghouse. Although clearinghouses aren’t always required—some plans allow for direct submission of claims or encounter files—they add value by aggregating, securely transmitting, validating and tracking claims and encounters. Data quality checks, often referred to as edit checks, performed by the clearinghouses ensure that required data elements are present, that they fit the designated field length and format, and that the information they contain is reasonable. For example, if the patient gender is recorded as male, one would not expect to see a procedure code for a hysterectomy on the same encounter.

Even as multiple handoffs increase the chance for encounter data accuracy to drop off, so too do rejection processes based on edit checks. Individual encounters may be rejected as incorrect, or entire data files may be subject to rejection—for example, when the file itself fails to meet formatting requirements. Each health plan has different rules for validating encounters, and within each plan, different departments may have their own requirements based on whether they are using the data for Medicare Stars, risk adjustment, HEDIS, P4P, or some other purpose. Plans often delegate some, but not all, of these edit checks to a clearinghouse. As a result, when a PO submits encounter data to a health plan, the data can be rejected at the clearinghouse, at the initial point of contact within the plan and then by various departments within the plan.

Timeliness in encounter data submission is relative to business needs for the data, such as the submission process for HEDIS quality scores, which operates on a set annual timeline. The extra handoff caused by the insertion of POs into the delegated payment model, combined with state laws allowing providers a minimum of 90 days after date of service to submit claims for payment and, for HMOs, an additional 45 working days to process claims, often leads to incomplete documentation of services rendered in the time allotted to meet quality program deadlines.

File Formats Vary and Change Frequently

Many POs and plans described challenges from nonstandard and ever-changing file format requirements. Physician practice management systems generate claims files in an industry standard format, ANSI ASC X12 837 (“837”), which was developed for transmitting data between any two entities covered by the Health Insurance Portability and Accountability Act (HIPAA). Health plans’ encounter file submission formats are generally based on the 837 format, but each plan requires some variation on the standard. For example, a plan may require that any specific segment of the 837 file be populated. Or, a specific data element may be required in a certain field by one plan but in a different field by another plan. Since most POs in California contract with five or more commercial plans, multiple file submission formats add extra burden to data exchange.

Plans often use “legacy” business systems, the result of previous mergers and acquisitions, to process data. Specific requirements for encounter data files can be based on the needs of legacy systems, as well as the needs of various functional units within the plan, as discussed previously. The 2012 conversion of the 837 standard from the 4010A1 version to the new 5010 version reportedly eliminated some, but not all of the variation among plans.

Plans reported facing a similar lack of standardization as POs, when reporting encounters to different purchasers, including CMS, the California Department of Health Care Services (DHCS), Covered California (the state’s health insurance marketplace) and the U.S. Department of Health and Human Services.

Data Submission Requirements Change Frequently, and Communication is Ineffective

Purchasers’ and plans’ encounter data submission requirements frequently change. When the change comes from the plans, it is often driven by changing purchaser require-
ments. Recent examples include the previously mentioned 837 standard 5010 conversion and CMS’ April 2015 announcement of its intention to begin moving fully to a risk model based on encounter data.7 Even when a change is global, plans often have different interpretations of the regulations and different deadlines for submitting encounter files in new formats.

POs also reported ineffective communication about changes, which varied from “I’m bombarded with encounter-type emails” to “There’s no communication—[plans] just reject encounters” for a new reason.

**Verification Processes Vary**

The edit checks or reasons for rejecting both encounter files and individual encounters differ by plan. What is considered bad data can be specific to a plan’s business processes. For instance, at least one plan does not accept a post office box in the provider address field. In another example, self-reported “taxonomy” codes—denoting the provider’s specialty—are passed to the health plan from claim to encounter file but may conflict with the plan’s own classification of the provider; in that case, encounters are often rejected.

Just as the definition of an error varies, so do error reports back to submitters indicating which encounters were rejected and why. Like the 837 format, there is also a standard format for claims status responses, EDI 277; but different plans provide encounter data error reports in pdf, Word, and Excel formats, as well as 277. POs reported receiving no error reports from a specific plan or error reports on entire files but not on individual rejected encounters. POs often track encounters by date of file submission, but plans may report errors based on the reported service date. Finally, not all plans provide portals to allow POs to fix errors and resubmit encounters.

**Nonstandard Data Quality Benchmarking**

Plans create and communicate expected benchmarks for encounter data volume, integrity and timeliness, but there are no industry standards for such metrics. For encounter volume, plans usually normalize the measure against volume of PO enrollees and sometimes stratify the benchmark at the level of specific health care service category (e.g. preventive services, ophthalmology and optometry, radiology and imaging, etc.). There is no industry-wide accepted minimum level of encounter volume, and no standard for defining specific service categories. One PO reported being told that its radiology volume was low but could not find out how the plan defined that service type.

**Submission Process Creates Unnecessary Work**

Additional processes and workarounds to accommodate the problems caused by multiple handoffs and nonstandard formats add cost to the system. Examples of unnecessary work created by the submission process include:

- producing and changing multiple file formats (POs and plans);
- interpreting different types of error reports;
- accommodating different methods for resubmitting corrected encounters;
- producing and submitting “shadow files” at health plan request—that is, lists of encounters from decision support systems that are used to validate encounter files pulled from data warehouses;
- abstracting medical records data that should have appeared in encounter files—a burden for physician practices; and
- reporting data that should have appeared in encounter files via alternative submission methods.

**IMPLICATIONS**

Challenges with encounter data quality and timeliness have implications for individual managed care organizations’ success in today’s health care market; for the delegated HMO model’s sustainability relative to fee-for-service products; and for the drive toward quality and cost transparency in general.

**Competitiveness of Individual Managed Care Organizations**

For health plans, encounter data are increasingly critical to success—particularly in Medicare Advantage and Covered California lines of business.

Where both prospective payment and payment adjustments are based on patient risk factors, complete and accurate diagnosis capture is crucial to competing in those lines of business. The ACA mandates annual transfer of funds from participating health plans with relatively low-risk enrollees to plans with higher risk enrollees, to protect against adverse selection. In Medicare Advantage, CMS adjusts capitation rates to participating health plans based on the health expenditure risk of enrollees.

Issues with diagnosis capture include listing only the primary reason for the encounter, instead of including additional coexisting conditions; and listing nonspecific
diagnoses when complications exist—for example, a broad diagnosis code for uncomplicated diabetes, rather than one that indicates specific associated complications, such as kidney or retinal disease.

Moreover, encounter data play a key role in calculating HEDIS-based scores for the Medicare Advantage plan quality bonus program. For the past few years, CMS has cut Medicare Advantage rates, so plans must compete for an ever smaller funding pool. In April, CMS announced its intention to begin moving fully to a risk model based on encounter data, rather than the current model of receiving diagnosis data through the risk adjustment processing system (RAPS). At the same time, the April 2015 CMS announcement regarding plans for 2016 included a move away from fixed Stars thresholds in favor of relative thresholds, which favor higher-performing plans at the expense of low performers.8 Because high performance in the quality bonus program results in not only bonuses but also the ability to enroll new members year round, it can be critical to success in Medicare Advantage.

**Competitiveness of the Capitated, Delegated Model**

Even as managed care sees a resurgence with the growth of accountable care organizations and other integrated care arrangements, the California commercial delegated-HMO model, which is well known for coordinated care, is struggling to stay financially competitive vis-à-vis fee-for-service products. This is most apparent in high-deductible benefit plans. Both in Covered California and commercial coverage in general, plans are able to offer low-premium products by creating benefit designs where enrollees pay a larger portion of the costs. But successfully tracking patients’ contributions toward deductibles requires timely, frequent and complete data interchange between all payers and providers involved in their care. Fee-for-service products, where providers bill plans directly and are highly motivated by payment incentives to submit claims quickly, lend themselves better to that type of data capture. As a result, health plans that are not part of an integrated delivery system are choosing to create most high-deductible plans as PPO products.

Some self-insured employers are also moving away from the capitated, delegated model, in part due to difficulties obtaining detailed performance data. Data transparency is important to self-funded employers, which take the risk for insuring employees themselves. In self-funded risk arrangements, employers direct the health plans in such areas as rate-setting, provider networks and benefit designs. Detailed claims data that include historical utilization and costs are essential for these activities as employers look to design programs around risk-adjusted rating methodologies, effective provider networks, benefit designs and programs that provide the right resources for their employee population or incentivize desired behaviors by both employees and providers. However, the health plans that administer self-funded products generally do not provide employers the same level of claims detail for HMO products as they do for fee-for-service. Plans do provide aggregate HMO data such as total medical costs and cost trends, but there is a perception that HMO detailed encounter data are too old and inaccurate for the plan to confidently share with the employer.

**Quality and Cost Transparency**

The current push toward quality and cost transparency in health care is evidenced in the formation of statewide all-payer claims databases (APCDs). Currently, 41 states have implemented an APCD, are in the process of implementing an APCD, or have existing voluntary efforts9 (see sidebar). In California, 2015 legislation (SB 26) mandating a health care cost and quality database did not make it out of committee, but California’s Department of Health and Human Services

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**APCDS AND ENCOUNTER DATA**

There are parallels between other states’ experience with APCDs and California’s experience with encounter data.

**Capitated Encounters**

APCDs include data from capitation and employed physician arrangements; most of this volume is in managed Medicaid and Medicare Advantage and to a lesser degree from integrated health systems.

**Data Separated From Transaction Systems**

Even fee-for-service payers typically pull APCD data files from their data warehouses and not from transactional data sources, making such files similar to encounter data files in that they are removed from payment systems and incentives.

**Multiple File Formats**

National payers must submit data files in different file formats to multiple states with APCDs, prompting the APCD Council to develop a recommended Post-Adjudicated Claims Data Reporting Guide based on ASC X12 standards, available at http://www.apcdcouncil.org/manual.
INTEGRATED HEALTHCARE ASSOCIATION

(CHHS) recently announced its intention to use funds from the State Health Care Innovation Plan to develop an APCD that leverages existing California databases.10

**IMPROVEMENT EFFORTS**

Plans and providers increasingly are dedicating resources to improving the flow of encounter data. Improvement efforts center on process redesign, performance measurement and reporting, and incentives and sanctions.

**Process Redesign**

Plans and providers are working with internal systems and process redesign to improve encounter data quality and exchange workflows. Several interviewees mentioned redesigning core business systems to eliminate workarounds. One plan intends to move edit checks “upstream” to the intermediary that accepts encounter data for the plan; that is, additional edit checks at the plan or plan department level will be consolidated at the clearinghouse. A PO has installed tools to automate file creation and submission and populate missing values in encounter data. The latter includes registries that use public databases to fill in missing provider address data and look up national provider identification numbers and registered taxonomy codes—all of which are common missing or “bad” encounter data elements.

Plans and POs also are addressing the fragmented nature of the encounter data process by creating internal governance structures, such as consolidated functional units or workgroups, that bridge departments exchanging and using encounter data. Moreover, some are creating staff positions and teams dedicated to encounter data. Staff interviewed for this project included a vice president of operations, capitation and encounter data and an encounter data specialist.

When asked if any of the described initiatives have borne fruit, most respondents stated that it is too soon to tell. Medicare Advantage risk-adjusted premiums focused attention on more complete and accurate diagnosis capture for a few years. However, plans submit diagnoses to CMS via the risk adjustment processing system (RAPS), and often collect diagnoses from POs on forms and in tools separate from encounters. Therefore, the effort to collect more and more specific diagnoses is not always reflected in the encounter data from either the PO or the plan.

Beyond the Medicare Advantage program, other drivers of the renewed focus on encounter data seem to have only recently generated improvement efforts. Only one PO respondent was able to report a measurable drop in encounter rejection rates from one of their contracted plans, as a result of their efforts.

**Benchmarking and Rewarding Encounter Data Quality**

Plans are performing auditing and analysis to identify data gaps, with measurement of encounter volume by health care service category, data integrity and timeliness. These metrics are compared against expected benchmarks and trended for each submitter.

A plan that has created analysis and benchmarking may meet with submitters to share reports, especially with outliers. POs also reported reaching out to plans and intermediaries to work on improving the data exchange process. Plans and POs are providing technical assistance to submitters. One plan reported holding focus groups to survey submitters regarding “pain points,” and using the information collected to host webinars to educate submitters on best practices. Some plans have bonuses, corrective action plans, or cap withholds for POs based on data quality; some POs include encounter data quality metrics in physician bonuses. Reportedly, at least one plan is moving toward risk adjusting commercial capitation to POs.

**Industry Collaborative**

While much of the investment in improving encounter data has been made by individual plans and providers or by contracting partners, one statewide initiative is underway. The Maximum Out of Pocket, or MOOP, Team was created by members of the Industry Collaboration Effort, a voluntary group that works to streamline the adoption of regulatory processes and procedures in California. The team is focused on Medicare Part C reporting requirements for member explanations of benefits (EOBs), specifically the inclusion of maximum out-of-pocket totals. However, the team is addressing larger encounter data issues and has developed standards to report encounters, denials and adjustments.

**Encounter Data in Medi-Cal**

Around the country, state Medicaid departments are seeking to improve encounter data quality and exchange processes through purchaser requirements and oversight, incentives, resource allocation and feedback on data quality and validity from entities using the data for research and analysis.11 Interviews with the California Department of Health Care Services indicate that process improvement
Encounter data will play a key role in the continued success of the capitated, delegated model. There is an opportunity to improve the flow of data through standardization, incentives and collaboration. But the organizations that generate and use data regarding patient encounters and illness will need to work closely to improve the quality and timeliness of encounter data, as well as to reduce the administrative burden associated with data exchange.

Notes
5. For details on the 837 standard format, see “837 101 Tutorial” at the website of the Public Health Data Standards Consortium.
6. Based on surveys conducted by IHA for its Value Based Pay for Performance program.
8. Ibid.
9. More information, including an interactive state map, is available at the APCD Council website, apcdcouncil.org.
10. Email communication from CHHS Secretary Diana Dooley to the agency’s stakeholders, June 4, 2015.
11. See, for example, Mathematica Policy Research’s Encounter Data Toolkit, November 2013, available at Medicaid.gov.

Acknowledgments
This project was generously supported by a grant from the California HealthCare Foundation (CHCF). The project could not have been completed without the participation of key respondents listed in the Appendix.
In March 2015, prompted by regulatory and market dynamics, IHA launched an initiative to assess the encounter data exchange process in California, including barriers to encounter data quality and recent and ongoing improvement initiatives. With funding from the California HealthCare Foundation, IHA sought to answer the following questions:

- What are the issues that are challenging successful encounter data exchange in California and other states?
- What are the current and recent improvement efforts in California and other states? Are the efforts successful?

Between March and June 2015 IHA interviewed the following organizations:

**APCD**  
Center For Improving Value In Health Care (CIVHC)  
Minnesota Department of Public Health  
Oregon All Payer All Claims Reporting Program (APAC)

**Association**  
CAPG – The Voice of Accountable Care  
California Primary Care Association (CPCA)

**Clearinghouse**  
TransUnion

**Health Plan**  
Aetna  
Health Net  
UnitedHealthcare

**Hospital/Health System**  
Dignity Health  
Kaiser Permanente

**Physician Organization**  
AltaMed  
Brown & Toland Physicians  
Facey Medical Group  
Hill Physicians  
Stanford Health Care

**Purchaser**  
California Department of Health Care Services (DHCS)  
Covered California  
Disney

**Third Party Administrator**  
Keenan

IHA also conducted a review of published literature and online resources.