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Predictive Modeling NEWS

Hospital Contracts: The Critical Elements of Financial Performance Modeling

Reconciliation between different data sets minimizes misunderstandings

by Terri L. Welter, Principal, and Charles A. Brown, Senior Manager, ECG Management Consultants Inc., Arlington, VA

Hospitals and managed care organizations are taking a more collaborative approach to ensuring that negotiated terms produce the financial results that they expect. In the current reimbursement environment, it is common for new contracts to include significant methodology changes as the parties move toward episode-based payments. The development of an accurate and flexible contract model is critical to understanding the expected financial performance of negotiated terms, particularly as reimbursement methodologies change. Modeling errors can result in reimbursement differences when compared to projections – with the potential impact of millions of dollars in either direction under a single contract.

In order to successfully negotiate a new agreement and create financial predictability, the parties must accurately model the impact of proposed terms. That typically involves applying the proposed methodology and terms to historic patient claims data and comparing the projected payments to expected reimbursement under the current arrangement. While the concept is simple in nature, in practice, the complexities of hospital billing and data capture result in significant differences between data sets used by MCOs and hospitals.

Failure to appreciate the intricacies and subtle differences between the data sets and adjudication interpretations can result in unintentional but material misrepresentations of the financial impact of a proposed agreement. When those problems are uncovered, they complicate negotiations by inserting a measure of mistrust.

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Care Management, Not Disease Management, Needed to Control Costs, Improve Quality

How to meet patient needs while avoiding unwarranted treatment variations is the question

by Russell A. Jackson

Disease management has the power to keep a lid on spiraling healthcare costs by keeping patients with chronic conditions as close to well as possible. But proving that disease management programs can do so cost-effectively has been difficult, especially in the Medicare fee-for-service population. The predictive modeling solutions that populate the tools that target patients for disease management intervention have a stake, of course, in the resolution of that dilemma.

The problem, says Health Dialog -- a leading provider of care management and analytic services and a wholly owned subsidiary of Bupa, a global provider of healthcare services based in London -- is traditional DM programs only address 12% of the causes of unwarranted health cost and quality variations in the US healthcare system. That won't be enough for the Obama Administration, the company points out, which has upped the emphasis on cost containment and quality improvement.

Care management, the company says in a recent white paper called "Care Management: What Works," has evolved into an enhanced solution to the problem. It, according to the white paper, addresses "the other 88%."

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Care Management, Not DM, Needed…*continued*

Those results are well-supported by rigorous plausibility testing of Health Dialog practices. Those plausibility tests, intended to support internal learning and quality improvement, utilize formal study processes with randomization, and each demonstrates the powerful impact on medical costs of robust support for individuals with key risks.

A series of tests of different types of outreach for individuals at risk for back and joint surgery, for example, demonstrated that populations with much higher levels of health coaching had significantly lower surgical rates and significantly lower overall health costs. A second test of different outreach approaches for individuals with chronic conditions, who had a high likelihood of future costs but who had not yet been reached by traditional outreach processes, demonstrated that populations with much higher levels of health coaching had significantly lower overall health costs.

Certainly there are care management programs that do not work, which has been most widely discussed around the Medicare fee-for-service population, but which can occur in other populations as well. Problems that care management programs can face in such instances include program design constraints and systemic data limitations. Health Dialog's analysis shows that programs that do not reduce medical costs are subject to one or more of these constraints:

- Enrollment or opt-in requirements. Individuals with progressive chronic conditions are poor at predicting future needs. Enrollment or opt-in requirements bar access to initially unreceptive people who might pose tremendous opportunities for impact in the future.
- Limited or no provider touch points.
- Narrow focus on clinical quality improvement. Improving clinical quality as currently measured may have little to no impact on short-term medical costs because it focuses on effective care, where just 12% of dollars are spent, and because its initial goal is to increase use of that care. A common mistake is to overemphasize those types of measures at the expense of ensuring that people with chronic and other high-risk conditions avoid excess supply-sensitive care and get the right preference-sensitive care – where 88% of the money is spent. The main reason that people with chronic conditions can be so costly is their conditions cause them to interact frequently with the medical system. Thus, they are more at risk to be drawn into the other 88% than are healthy individuals.
- Single- or limited-condition programs. The largest opportunities for cost savings can be discovered when the entire population is available for potential intervention. A focus on one or two diseases constrains the overall impact significantly.
- Data sources that are inconsistent or untimely. Data are the life's blood of a care management program. Without reliable and timely data sources, programmatic focus is off, front-line support processes are ill-advised and course corrections are difficult. While it is expected to have small

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Care Management, Not DM, Needed…*continued*

inconsistencies and lags in data, most are predictable and can be factored into analytic approaches. In some instances, including the Medicare fee-for-service population, data problems are tremendous and work-arounds complex. Examples of potential problems that restrict program performance include massive, unstructured errors in member identification data; large amounts of missing claims data; and significant claims lag problems.

- Lack of real-time data feeds for urgent needs.
- Limited or poor pharmacy information. Pharmacy data are extremely useful for identifying individuals with conditions, for developing appropriate targeting strategies and for enabling coaches to support individuals in need. With poor pharmacy data, program effectiveness is constrained.

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When the problems are not uncovered prior to contract execution, the negative financial consequences can be significant. Recognizing the risks and planning for appropriate data reconciliation thus become important parts of the negotiation process.

Case Study: Overview

This case study is based on an actual negotiation between a large Midwestern hospital and an MCO. The MCO proposed a new agreement that changed the inpatient payment methodology from a percentage-of-charge reimbursement scheme to All Patient Refined-Diagnosis Related Group case rates. The data and adjudication rules used by the MCO in its initial modeling resulted in a material misstatement of expected contract performance. The hospital was able to perform a reconciliation that resulted in a mutually acceptable data set that both parties agreed resulted in a reasonable projection of the contract's financial outcome.

Key Actions Taken

Because the hospital did not have the ability to group claims into APR-DRGs, the MCO provided a model using historic claims data and calculated a transitional base rate estimated to be revenue-neutral. After an initial high-level analysis, it became apparent that there were significant differences between the hospital's and MCO's data. A logic test compared total charges modeled by the health plan with the hospital's claims data for the same time period. The hospital's data included $4 million in charges – 14% -- more than what the MCO's model contained. An in-depth reconciliation of the hospital and MCO data was needed before a base rate could be calculated that both parties agreed would yield revenue-neutral reimbursement. In addition, the initial review of the data and modeled payments compared to the contract terms resulted in identification of errors in the way the MCO model treated some of the claims

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A quick visual scan of the data showed that there were payments in excess of charges and that the short-stay methodologies had not been applied. Those red flags suggested the need to perform an in-depth reconciliation.

Data/Modeling Reconciliation Process

The problem: The $4 million difference between the hospital's and the MCO's data sets. The first-pass comparison involved identifying the cases that were common to the two databases.

Working with the hospital and health plan, we identified a key -- unique reference number -- that would enable us to create a crosswalk of individual cases. Combining the reference number with the account number allowed us to match individual cases with the health plan's data. The ability to crosswalk cases between the two data sets enabled us to identify discrepancies on a line-by-line basis. They included:

* Cases in the hospital's data that were not in the MCO's, and vice versa
* Single cases in the hospital's data that were treated as multiple cases by the MCO
* Professional fees inadvertently included
* Babies treated as separate episodes of care by the hospital but combined with the mother by the MCO
* Patients registered with the MCO as secondary but later determined to be primary
* Interim bills from a percentage-of-charges methodology not combined into a single DRG case for the proposed scenario
* Short-stay rules not applied properly

The Financial Impact

The final revenue-neutral base rate was 21% higher than the initial MCO-proposed base rate -- an impact of more than $4 million a year. The root cause was that the health plan initially modeled its proposed conversion from a percentage-of-charges to an APR-DRG methodology by using a model designed to compare a conversion from AP-DRGs to APR-DRGs. The magnitude of the error was 3% of the allowed amount. While tedious, the data and model reconciliation process can identify variances that may have an impact of millions of dollars. Failure to recognize the issue would likely erase any of the increases gained during the negotiations or, even worse, leave the hospital in a less favorable financial condition than when it started.

Issues Identified During the Reconciliation Process

The table below includes a summary of the key issues identified during the data/modeling reconciliation process.

Key Issues List – Data/Model Reconciliation

Type of Issue	Explanation	Impact
"Lesser of" Application	The health plan model indicated reimbursement at the DRG rate that was higher than charges.	Overstated the yield of the proposal.
Annual Charge Master Increases	The health plan modeled the impact of current charges compared to the proposed DRG payments.	Understated the yield of the current situation by not accounting for contractually allowed increases.
Registration Issues	The MCO was originally indicated as secondary and then was found to be primary.	Data missing from the hospital database but included in the MCO database.
Differences in Charges	The MCO model did not include all charges tied to a specific claim.	Understated charges compared to expected payments.
Interim Billing	The health plan model treated interim bills for individual cases as separate claims and projected a DRG payment for each.	Overstated the yield of the proposal.
Refunds	Claims were included that had been refunded or retracted.	Overstated payments in both current and proposed scenarios.
Babies	Charges for babies were included with the mothers.	Understated expected payments by missing the additional DRG.
Inclusion of Inappropriate Data	Hospital data inadvertently included professional fees.	Overstated both current total charges and reimbursement.

Conclusions

Current economic conditions are placing stress on hospital and MCO finances, and there is little or no leeway for unanticipated reimbursement outcomes. Creating a financial model to understand the impact of a proposed contract is critical.

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Differences in the data sets and modeling assumptions can result in a material misstatement of financial performance. It is paramount that MCOs and hospitals reconcile their data sets, assumptions and contract models during negotiations so that the intended financial consequences are realized.

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Contact Welter at twelter@ecgmc.com or Brown at cbrown@ecgmc.com or either at 703-522-8450.