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STATE OF CONNECTICUT HOSPITAL PAYMENT MODERNIZATION ISSUE PAPER — OUTLIER POLICY AND APPROACH

Issue Description:	Following the July 28, 2014 meeting among the Connecticut Department of Social Services (DSS), hospitals, and the Connecticut Hospital Association (CHA), it was proposed by CHA that the project eliminate the outlier policy and approach. On the September 18, 2014 stakeholder call, CHA requested that all hospital base rates be adjusted based on an average outlier amount instead of using hospital-specific data.
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Revision Date:	December 11, 2014
Status:	Revised Draft

Background

The proposed All Patient Refined Diagnosis Related Groups (APR-DRG) methodology's initial implementation included a provision to pay additional amounts for cases that were significant outliers — where costs are far above those envisioned in the development of the case rates. CHA has requested the elimination of this approach, but believes this decision should be revisited in future years. CHA also believes that the added complexity of developing these policies during year one of a revenue neutral implementation will not yield sufficient value to warrant diverting attention from other aspects of system development.

Considerations

To this project team's knowledge, all implementations of DRG-based payment systems include a provision for additional payment when a case rate is far from covering an unusually expensive case. Mercer thinks that the request from CHA is largely based on the premise of revenue neutrality, which does, to some extent, make the calculation of these amounts less relevant. Mercer also understands that the current approach with per-case reconciliation has no special policies for these types of outlier cases.

The goal and the name of the project, is Hospital Payment Modernization, and the team is charged with developing modernized "methods of payment" within a revenue neutral framework. By definition, the decision to retain revenue neutrality limits DSS's ability to affect equity among hospitals, however, the model being developed is intended to improve the recognition of acuity and the accuracy of payment. To that end, the project team believes that an outlier policy is integral to a modernized payment system.

From an administrative complexity perspective, the project team's work has envisioned this policy, and the modeling has anticipated it. There is no additional programming or time to be saved by the team eliminating the inclusion of an outlier system. Mercer has assumed the hospitals will be

familiar with the concept of outlier reimbursement based on Medicare and other payers' payment policies.

The guiding principles for the project include the following:

- Maintain long-term commitment to the goals of improved accuracy, predictability, equity, timeliness, and transparency of hospital payments for all Medicaid beneficiaries in the State of Connecticut; however, expedite the short-term focus on technology and the mechanics of payment.
- Focus on **method** of payment, not **level** of payment:
  - Project modeling will be based on state budget neutrality.
  - Initial implementation will target revenue neutrality for each hospital.
- Overarching policy direction of consistency with industry standard payment practices and, specifically, Medicare payment policy.
- Develop the most robust and comprehensive system possible, while allowing flexibility to handle exceptions in an equitable and efficient manner.

These guiding principles support the inclusion of an outlier policy.

Recommendation

Mercer does not support elimination of the outlier policy and approach, however, the specifications surrounding the definition of outliers and the number and proportion of outliers has not been finalized. Discussions between DSS, hospitals, and CHA could provide a pathway to minimize any perceived, undesirable impacts of the outlier policy, while remaining true to payment modernization and providing meaningful financial protection from unpredictably high-cost cases.

Additional Follow-up Question on Outliers

In a subsequent teleconference with hospitals and the CHA, an additional request was made to consider implementing an outlier adjustment to hospital-specific base rates using an "all hospital average" approach.

Considerations

Although mathematically possible, the project team sees this idea as problematic:

1. A hospital with few outlier cases would have its base rate reduced more, based on the "average expected outliers," than on its own data. As such, revenue neutrality as defined by the analytical data set would not be met as the hospital would receive less than its target. If this hospital generally has "fewer than average" outliers, future year funding would be systematically lower, as well.
2. A hospital with many outlier cases would have its base rate reduced less, based on the "average expected outliers," than on its own data. As such, revenue neutrality as defined by the analytical data set would not be met as the hospital would receive more than its target. If this hospital generally has "more than average" outliers, future year funding would be systematically higher, as well.
3. As a result, this approach would transfer payment from those hospitals with few outlier cases to those with many — and violate the concept of hospital-specific revenue neutrality. A likely

result is that the smaller and more rural hospitals would see reduced revenues, and the bigger, more urban, higher acuity hospitals would see increased revenues.

DSS and the project team understand that the hospitals do not receive special consideration for outliers on a case by case basis under the current payment approach, and that there are concerns with possible changes in the levels and distribution of outliers in future years. However, adjusting all hospitals by the same amount or ratio for outliers will violate the integrity of the revenue neutrality proposition — both in the analytical data set and model, and in future payment years.

The project team continues to recommend modeling various thresholds for outliers, and using a high threshold if desired.

Additional Follow-up Modeling on Outliers

In preparation for a final DSS decision on the approach to outliers, a group of simulations was performed. Two general approaches to defining outliers were considered:

1. Fixed Loss Threshold — in these iterations an overall threshold was determined, which would result in varying numbers of cases considered as outliers.
2. Statistical Loss Threshold (with fixed loss limit) — in these iterations a threshold was derived based on the average charge and the standard deviation of each APR-DRG in the off-the-shelf software package. A smaller fixed loss level was included, as a minimum, and used to limit the number of outliers and require a reasonable loss before an additional payment was triggered.

Within each approach, several levels of threshold were simulated:

1. Fixed Loss Threshold:
   - $70,000 threshold — when estimated costs exceed $70,000 above the APR-DRG payment, a case would be considered an outlier and 75% of the excess cost (above the DRG payment plus $70,000) would be paid in addition to the APR-DRG payment. This threshold represents approximately 5% of total payments as outlier payments.
   - $140,000 threshold — when estimated costs exceed $140,000 above the APR-DRG payment, a case would be considered an outlier and 75% of the excess cost (above the DRG payment plus $140,000) would be paid in addition to the APR-DRG payment. This threshold represents approximately 2% of total payments as outlier payments.
2. Statistical Loss Threshold:
   - For all statistical models, a target threshold is developed for each DRG, based on an adjustment factor multiplied by the sum of the average charge for a DRG, plus 1.96 times the standard deviation of the charges for the DRG. In addition, a minimum threshold of $30,000 is applied. The final formula is as follows:

     DRG Threshold = Max {$30,000, (adjustment factor* [Untrimmed Average DRG Charge + 1.96* Charge Standard Dev])}

     If the estimated cost of a case is above the resulting threshold, it would be considered an outlier, and 75% of the excess cost (above the DRG payment plus the calculated

threshold) would be paid in addition to the APR-DRG payment.

- Adjustment factors were developed to target various percentages of payments as outliers:
  - 7% of total payments as outlier payments — adjustment factor 0.2684
  - 5% of total payments as outlier payments — adjustment factor 0.3450
  - 2% of total payments as outlier payments — adjustment factor 0.6050

Discussion and Decision

The project team recommended, and DSS selected, the Statistical Loss approach with a minimum outlier threshold. This approach is more consistent with the project goals of recognizing acuity, and allows for an outlier threshold at lower levels for less acute cases and higher levels for more complex cases. Many cases that would generally be considered "outliers" would not generate additional payment under the higher thresholds modeled with the Fixed Loss approach. For example, with a fixed loss limit of $140,000, a normal newborn delivery would have to be more than 20 times more expensive than average to qualify, whereas a heart transplant could qualify when less than twice as expensive than average.

The following table shows key data for the three Statistical Loss Thresholds:

	Statistical 2% Target	**Statistical 5% Target**	**Statistical 7% Target**
Outlier Discharges	269	772	1,148
Overall Average % of Discharges	0.4%	1.3%	1.9%
Hospital Specific Maximum % Discharges	1.4%	3.6%	5.4%
Hospital Specific Minimum % Discharges	0.0%	0.0%	0.0%
Outlier Payments	$7,481,925	$18,702,199	$26,210,071
Overall Average % of Payments	2.0%	5.0%	7.0%
Hospital Specific Maximum % Payments	5.6%	12.6%	16.9%
Hospital Specific Minimum % Payments	0.0%	0.0%	0.0%

The majority of hospitals have very few outlier cases. Using the 5% Statistical Threshold, 21 hospitals have less than 1% of their cases as outliers, seven hospitals have between 1% and 3% of their cases as outlier cases, and only two hospitals have over 3% of their cases classified as outlier cases. Correspondingly, 20 hospitals have less than 2% of their overall DRG payments affected, eight have between 2% and 5%, and only two hospitals have over 5% of their payment affected by this methodology. As expected, outliers are disproportionately distributed.

The project team recommended, and DSS selected, the 5% Statistical Loss Threshold for initial implementation.

Outlier Factor and Formula

- Further claims analysis and simulation resulted in a final adjustment factor of .3375, resulting in approximately 4.9% of total payments as outlier payments.
- The final formula is as follows:

DRG Threshold = Max {$30,000, (.3375* [Untrimmed Average DRG Charge + 1.96* Charge Standard Dev])}