STATE OF CONNECTICUT HOSPITAL PAYMENT MODERNIZATION ISSUE PAPER — DOCUMENTATION AND CODING IMPROVEMENTS

Issue Description:	As the State of Connecticut (State) transitions to the new All Patient Refined Diagnosis Related Groups (APR-DRG) payment methodology, the potential exists for improvements in claim documentation (for example, claim diagnosis and procedure coding) that will result in higher payments to providers than are anticipated from fiscal impact models. These coding improvements have been observed with changes to DRG-based reimbursement systems in other programs. These coding improvements place the State at risk of exceeding its projected budget, thus, exceeding its revenue neutrality commitment to individual hospitals.
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Background

The proposed APR-DRG methodology fiscal impact model is based upon claims data from 2012 which were paid on a per diem basis with an annual cost reconciliation. Under the current reimbursement system, detailed billing and coding of diagnoses and procedure codes are not relevant to reimbursement level. However, for an APR-DRG methodology, these billing and coding elements are essential for proper levels of reimbursement. It can be expected that when hospital reimbursement is dependent upon claim coding and documentation detail, hospitals will improve their claim documentation accuracy and completeness.

Therefore, as the State transitions to the new APR-DRG payment methodology, improvements in coding will likely result in higher payments than forecasted. These coding improvements are an anticipated result of the transition. This poses a financial risk to the state attempting to maintain a hospital revenue-neutral transition.

Considerations

Any potential solution to this issue must focus on project guidelines which include increasing accuracy, predictability, equity, timeliness, and transparency of hospital payments; providing consistency with industry standard payment practices and specifically Medicare payment policy, revenue neutrality by hospital, and be budget neutral. Additionally, the solution must be in accordance with the Centers for Medicare and Medicaid Services (CMS) mandate for economy, efficiency, and access to care.

State and federal reimbursement system transitions to DRG systems show evidence of the payment increase as a result of this documentation and coding improvement (DCI). When

Medicare transitioned to the Medicare Severity DRG payment system, they identified a 5.8% increase over two years due to coding improvements unrelated to changes in patient acuity. The American Hospital Association disagreed with this assessment, but based on their own analysis they recognized an increase of 3.5%.[1] Elsewhere, the State of Pennsylvania's Medicaid payments increased 12% in the first year that the APR-DRG payment methodology was in place. In response, state Medicaid agencies in New York, Maryland, Virginia, Florida, and Arizona have adjusted rates or instituted policies to reduce the risk of payment increases that were expected as a result of coding improvements when transitioning to APR-DRG reimbursement systems.

One of the analytical challenges involved in identifying the source of observed increases in average severity of admissions (case-mix index [CMI]) is the isolation of coding improvements from real acuity increases in those patient services provided. As treatment of low acuity inpatient services migrate to an outpatient setting, the average acuity of the remaining inpatient cases increases. This increase in acuity does not lead to an increase in overall payments since the migrating cases should be reimbursed at lower cost in an outpatient setting. Therefore, this "real" increase in patient acuity should not be offset.

Recommendation

Adjust base rates for all hospitals by an amount intended to anticipate improved documentation and coding on a statewide basis. In doing so, allow for a reasonable level of a practice pattern-based increase in real acuity. Consider the amount of the rate adjustment to be a reserve which would be returned to the hospitals in the event that observed coding improvements are less than expected. If CMI increases are higher than anticipated, future rate reductions should be considered.

To develop an estimate for the "real" increase in acuity Mercer recommends relying on statistics from the Annual Report on the Financial Status of Connecticut's Short Term Acute Care Hospitals published by the State of Connecticut Department of Public Health, Office of Health Care Access. This annual report details the statewide CMI for the acute care hospitals across all payers. Mercer recommends the all payer, all hospital basis for this statistic to assess the underlying changes in practice patterns. The project team received a question on this recommendation from the Connecticut Hospital Association (CHA), suggesting that using Medicaid-only data for the measurement of real acuity change would be more accurate.

The choice of the statewide all payer, all hospital CMI increases was purposeful. It was intended to avoid any bias from changing enrollment or population average illness burden during the measurement period. The real acuity estimate attempts to capture an underlying change in the way care is delivered — for example more routine cases (that formerly required inpatient stays) being handled on an outpatient basis. Here is a small example:

	Year 1	Year 2
Population (members)	1,000	1,000
Total Cases	150	150
Average Acuity	1.000	1.000

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[1] Documentation and Coding Factsheet, American Hospital Association 9/9/2013.

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	Year 1	Year 2
Hospital Cases — Inpatient	150	144
Average Inpatient Acuity	1.0	1.010
Hospital Cases — Outpatient	0	6
Average Averted Acuity	N/A	0.7500

This example demonstrates that with the same required care, for the same population, for the same illnesses — but with some cases moving to an outpatient setting — that the subset of cases remaining in an inpatient setting have a higher average acuity (six lower acuity cases moved from inpatient to outpatient).

In order to test the premise at a high level, Mercer derived an estimate of statewide discharges per person. The data below seem to support the notion that there is a slight decrease in the incidence of inpatient stays, which (if one assumes a static or increasing burden of illness statewide) would support the premise that there is a system-wide change in practice patterns, resulting in fewer inpatient stays per person, and likely a higher acuity associated with those remaining inpatient stays.

Year	Statewide Discharges Per Person
2008	0.148
2009	0.149
2010	0.147
2011	0.147
2012	0.145

It is important to remember, that this calculation does not attempt to capture increases in the number of covered Medicaid beneficiaries (the APR-DRG system will pay for every additional person who requires hospitalization) nor the changing illness burden associated with adding new Medicaid populations or enrollees over time (the APR-DRG system is specifically designed to accurately pay for these types of changing profiles). Instead, the method attempts to estimate the extent which, *for a stable group*, practice pattern changes have an impact on the average acuity remaining in the inpatient setting.

Mercer did consider using Medicaid specific data for this derivation, but the growth in the population, and change in the population made this approach unworkable. Had the Medicaid population remained relatively unchanged during the time period from 2008 to 2012, it could have provided meaningful data to measure real acuity changes due to practice pattern changes. But because the Medicaid population increased by almost 50% during this time, the somewhat subtle changes in real acuity are likely to be dwarfed by the major changes in the size and average illness burden of the covered population. Because of the growth in covered members, it is impossible to discern whether the higher acuity demonstrated arises from the population change, or from changing patterns of practice.

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Mercer also looked at Medicare data, as another example of a more stable population. Applying the same approach to deriving increases in real acuity, based on the Medicare population, using 2008–2011 data (2012 was not split by payer) produced a similar but slightly lower estimate for the change in real acuity, of approximately 0.7% per year. This population was quite stable, growing about 4.4% over the four year period.

Using the statewide all hospital and all payer data is our best attempt at using a broad, representative, and stable population from which to impute the practice pattern based change in inpatient acuity. It comprises the entire population of the State, and the population growth over the five year period was less than 3%.

This type of approach has been used by other Medicaid programs and by CMS. It maintains prospective payment principles, reduces the need for retrospective adjustments, avoids likely overpayment relative to revenue neutrality, and facilitates budget neutrality for the State. It also develops the methodology for the reserving and distributing funds that could be applied to other policy initiatives in the future — for example shared savings or pay for performance programs. Should monitoring of the acuity levels indicate the need for additional adjustments, they should be made prospectively.

Proposed Approach

Reduce base rates by 4.76%, consistent with an assumption of 5% for documentation and coding improvements, and reserve this amount. Allow for an actual 2.09% annual increase between 2012 and 2013, and assume a 1.2% annual increase for the 2013–2014 and 2014–2015 time periods (4.55% between 2012 and 2015) in CMI intended to represent real acuity increases.

Derivation of Real Acuity Increase for Documentation and Coding Improvement Analyses

	2008	2009	2010	2011	2012	2013
Total CMI, All Payers[2]	1.2745	1.2903	1.2957	1.3202	1.324	1.3517
Annual Increase		101.24%	100.42%	101.89%	100.29%	102.09%
Average Annual Increase 2 year			100.83%	101.15%	101.09%	101.19%
Average Annual Increase 3 year				101.18%	100.86%	101.42%
Average Annual Increase 4 year					100.96%	101.17%
Average Annual Increase 5 year						101.18%

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[2] Annual Report on the FINANCIAL STATUS OF CONNECTICUT'S SHORT TERM ACUTE CARE HOSPITALS for Fiscal Year 2011, 2012, and 2013; State of Connecticut Department of Public Health Office of Health Care Access; September 2012, 2013, and 2014

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CMI should be monitored on a quarterly basis. For this purpose, CMI monitoring should focus on a stable Medicaid sub-population, to avoid any bias of changing eligibility groups or increases in covered populations. Following the first year of implementation, if the estimated coding improvement (defined as the observed CMI less a 4.55% allowance for real acuity increases) is less than 5%, refund the difference up to the full reserve amount. If coding improves more than 5%, a reduction of subsequent base rates should be considered.

It is anticipated that the vast majority of any DCI would occur during the first rate year. Therefore, no further reserves should be withheld in future rate years. The State will continue to monitor CMI for unanticipated increases beyond those anticipated by changes in service patterns. As with any other unanticipated change in state expenditures, hospital revenues may need to be adjusted accordingly.

The following examples assume a 2012 aggregate CMI of 1.0 for simplicity:

Examples

Example One — Coding Improvement Exactly as Expected	
2015 aggregate CMI	1.0955
2015 allowable aggregate CMI	1.0455
2015 coding improvement (1.0955–1.0455)	0.05
Expected year one coding improvement	0.05
Coding improvement above/below expected (No refund or rate reductions)	0.00

Example Two — Coding Improvement Less than Expected	
2015 aggregate CMI	1.0655
2015 allowable aggregate CMI	1.0455
2015 coding improvement (1.0655–1.0455)	0.02
Expected year one coding improvement	0.05
Coding improvement above/below expected (Refund 3% to hospitals)	-0.03

| Example Three — Coding Improvement Greater than Expected	
2015 aggregate CMI	1.1155
2015 allowable aggregate CMI	1.0455
2015 coding improvement (1.1155–1.0455)	0.07
Expected year one coding improvement	0.05
Coding improvement above/below expected (Consider 2% reduction for future years)	0.02

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Example Four — No Change in CMI	
2015 aggregate CMI	1.00
2015 allowable aggregate CMI	1.0455
2015 coding improvement (1.0–1.0455, minimum 0)	0.00
Expected year one coding improvement	0.05
Coding improvement above/below expected (Refund 5% to hospitals)	-0.05

Follow-up Questions

In a meeting with hospitals and CHA, questions arose around whether adjustments could be made for individual hospitals, on the nature of the reserve, and on the timing of the DCI calculation. Specifically, there were concerns that this approach could mathematically reduce the base rate unnecessarily, and that cash flow would be negatively impacted.

1. Could the adjustments be made for individual hospitals?

This DCI adjustment is meant to capture improvements in coding, and it is possible that different hospitals will have different levels of change. However, a hospital-by-hospital calculation would result in unpredictable and inaccurate results given the natural variation in acuity for smaller sample sizes. A hospital with a high acuity year would appear to have very high coding improvement, and vice versa. In fact a hospital with a low acuity year, could appear to have reduced the quality of coding — an unlikely scenario. Using the Medicaid aggregate CMI change, offset for the best estimate of the increase in real acuity allows for the most stable and meaningful results. The attached chart demonstrates the variability by hospital, relative to all Medicare and all payer results.
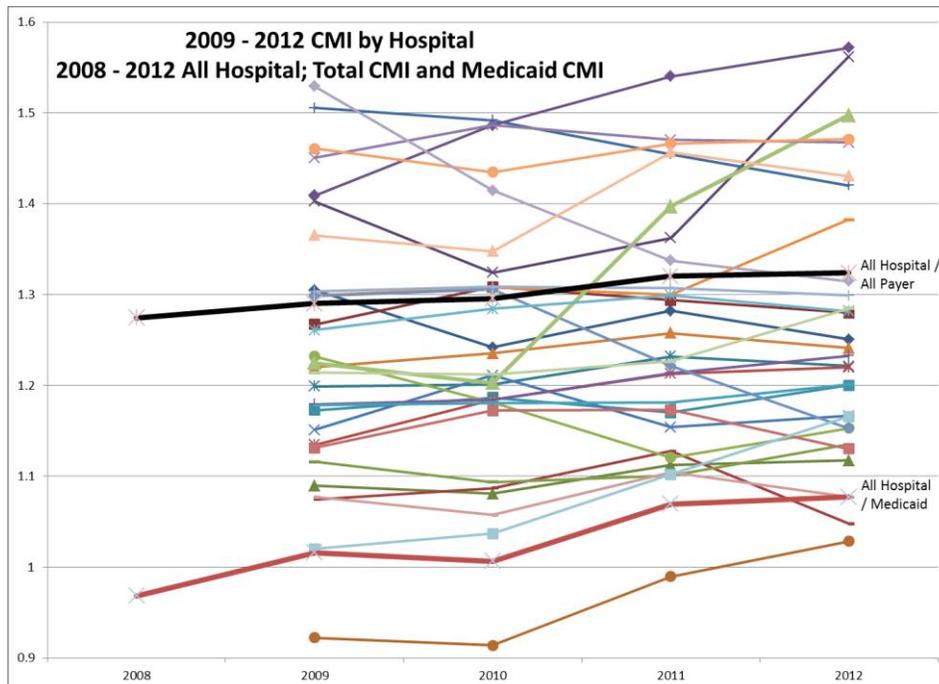
2. Why are you holding back almost 5% and why can't the hospitals hold the reserve?

1. Although the estimated DCI improvement is 5%, the amount of refund is expected to be minimal: The approach envisions tracking this reduction as if it were a reserve; however, the anticipation is that very little money, if any, will change hands. The "reserve" concept is used in this case to ensure that if the assumption for coding improvement is high, that any amounts related to unnecessary reductions to base rates (based on revenue neutrality) are returned to the hospitals. The DCI is an estimate of coding improvements related to changing reliance on diagnoses for payment. If the estimate is accurate, there will be no reserve and no funds to refund. Most DRG implementations build in a similar factor, but don't track or consider refunds. Because of the commitment to revenue neutrality, the idea of tracking actual results relative to estimates and the possibility of a "missed estimate" refund was developed. Because the State and Mercer estimate a 5% expected improvement in coding, the estimated refund is minimal.

2. The State has chosen to reduce base rates and do the "reserve accounting" to minimize impact on cash flow: If the hospitals were to hold the 5%, the most likely scenario would be a recovery of approximately 5% after the year was over. Much like the current reconciliation, this approach aims for small or no adjustments following the completion of the year, and subsequent data analysis. Asking the hospitals to refund overpayments in the following year is administratively and politically challenging.

3. Won't the timing of the refund affect cash flow?

Again, the expected refund is minimal. At this point, the State plans on any potential refunds occurring by July 2016. It is possible that the timing could be adjusted by several months in either direction based on data and reporting issues. It is important to note that the current system and reconciliation process takes almost a year longer than that envisioned for the DCI. Additionally the current reconciliations refund far more money (9% on average, with several hospitals over 25%) than the maximum potential refund based on DCI. Compared to the current system, prospective payment using APR-DRGs will be more accurate and timelier than the current system by an extremely wide margin.

4. The new Office of Health Care Access report has been released and contains higher estimates for real acuity, including actual data for 2013. Will you include these? What about partial year data from CHA?

The recently released report has been included in the final figures shown in the table above, the partial year data will not be used for estimation purposes.

Additional Follow-up Questions on Potential Refunds

The Connecticut Department of Social Services received a letter from CHA on November 11, 2014 regarding the calculations that would result in the event of a refund of all or a portion of the DCI reserve. Specifically, concerns were raised regarding the application of percentage factors, and the baseline costs that are multiplied by those factors.

This section is added to explain the methods that will be used to develop the refund amounts should the CMI not increase as much as expected due to coding improvement.

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Overview of the Approach

1. In mid-2016 a calculation of the statewide 2015 CMI will be undertaken. At this time any adjustments or special considerations will be taken into account to develop the most comparable estimate relative to the analytical data set.
2. DCI Reserve Recovery Percentage (DCI-RRP): An initial determination will be made as to whether a refund is warranted based on the relativity of the 2015 Statewide CMI to the 2012 Statewide CMI of .7612 in combination with the allowed increases due to estimated increases in real acuity (4.55%), and the assumed increase related to DCI (5%). DCI-RRP will derived as follows:
    A. If 2015 Statewide CMI is greater than or equal to 0.8356 (.7612 x (1+.0455) x (1+.05)), DCI-RRP = 0%.
    B. If 2015 Statewide CMI is less than or equal to 0.7958 (.7612 x (1+.0455)), DCI-RRP = 100%.
    C. If 2015 Statewide CMI is between 0.7958 and 0.8356, then a proportionate DCI-RRP will be calculated as: DCI-RRP = (0.8356-Statewide CMI)/(0.8356 - 0.7958).
3. Base Rate Reduction (BRR): The difference between base rate which would have been set without any consideration of DCI, and the base rate calculated and implemented January 1, 2015.
4. Hospital-Specific Refund Rate (HSRR) = BRR x DCI-RRP.
5. Hospital-Specific DCI Recovery Revenue = HSRR x CY 2015 Hospital-Specific number of APR-DRG Discharges x CY 2015 Hospital-Specific CMI.

The recovery revenue generated in this manner effectively restores payment to the hospitals to the extent that the actual DCI varies from the 5% DCI assumption built into the 2015 rates. It serves to recalculate payments for 2015, using the actual DCI results, and actual 2015 cases.

An example is shown below:

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Connecticut Department of Social Services - Division of Health Services

DCI Reserve Recovery Revenue Illustration

(to be calculated in 2016, based on 2015 claims data)

Sample Hospital

Statewide DCI Reserve Recovery Percentage

Statewide Average CMI 2012 Claim Set	a	0.7612	Final CMI Calculation Summary Worksheet
Allowed Real Acuity CMI Increase	b	4.55%	
DCI Reserve Limit Cap	c	5.00%	
Full DCI Reserve Recovery Statewide CMI	d	0.7958	d=a*(1+b)
Zero DCI Reserve Recovery CMI	e	0.8356	e=a*(1+b)*(1+c)
2015 Statewide CMI	f	0.8200	f=To be determined in 2016 using 2015 Claim Set
DCI Reserve Recovery Percentage	g	39.27%	g=100% if f<d, 0% if f>e, or (e-f)/(e-d) if d<f<e

Hospital Specific DCI Rate Reserve

Hospital-Specific DCI Reserve	h	$ 1,300,000	Final CMI Calculation Summary Worksheet
divide by: Hospital-Specific CMI	i	0.6500	Main Tab - Revenue Neutral Rate Calculation Line 81
divide by: Hospital-Specific Number of APR-DRG Discharges	j	4,000	Main Tab - Revenue Neutral Rate Calculation Line 83
Hospital Specific DCI Base Rate Reduction	k	$ 500.00	k=h/(i*j)

Hospital Specific Recovery Revenue

DCI Reserve Recovery Percentage	l	39.27%	l=g
Hospital Specific DCI Base Rate Reduction	m	$ 500.00	m=k
Hospital-Specific Refund Rate	n	$ 196.35	n=l*m
CY 2015 Hospital-Specific Number of APR-DRG Discharges	o	4,001	To be determined in 2016 using 2015 Claim Set
CY 2015 Hospital-Specific CMI	p	0.6600	To be determined in 2016 using 2015 Claim Set
Hospital-Specific DCI Recovery Revenue	q	$ 518,497	q=n*o*p

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