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Commissioner

June 30, 2015

Honorable Beth Bye, Senate Co-Chair, Appropriations Committee
Honorable Toni E. Walker, House Co-Chair, Appropriations Committee
Honorable Robert J. Kane, Senate Ranking Member, Appropriations Committee
Honorable Robyn A. Porter, House Ranking Member, Appropriations Committee
Honorable Marilyn Moore, Senate Co-Chair, Human Services Committee
Honorable Catherine F. Abercrombie, House Co-Chair, Human Services Committee
Honorable Joe Markley, Senate Ranking Member, Human Services Committee
Honorable Terrie Wood, House Ranking Member, Human Services Committee
Appropriations and Human Services Committee Members

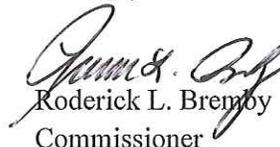
Dear Honorable Co-Chairs, Ranking Members, and Members of the Appropriations Committee and Human Services Committees:

The attached report has been prepared by the Department of Social Services, pursuant to House Bill No 5597, Public Act No. 14-217, Sec. 194. The report includes an analysis of hospital reimbursement costs under Connecticut's new inpatient hospital modernization system using diagnosis-related groups.

Data for the analysis was collected from the Department's Medicaid information system from January 2015 through March 2015. The objective was to determine if hospital inpatient reimbursement under the diagnosis-related group methodology remained revenue neutral to the State during the first quarter of 2015 when compared with the previous payment methodology. The Department worked with consultants from Mercer LLC and Myers and Stauffer LC to implement the revenue neutrality payment structure. Issue papers on specific decision points are included with the report.

Please note that this is a preliminary analysis based on three months of data. Additionally, this analysis does not include data from chronic care hospitals, stand-alone psychiatric clinics, or outpatient services as these are outside the diagnosis-related group reimbursement model. The attached presents an analysis and summary of the data collected.

Sincerely,


Roderick L. Bremby
Commissioner

RLB
Attachments

cc: Kathleen Brennan, Deputy Commissioner
Kate McEvoy, Director, Division of Health Services
John Blair, Legislative Program Director
Krista Ostaszewski, Legislative & Regulations Analyst

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HOSPITAL INPATIENT APR-DRG PAYMENT METHODOLOGY

DEPARTMENT OF SOCIAL SERVICES

On January 1, 2015, the State of Connecticut launched a new inpatient hospital reimbursement methodology system called All Patient Refined, Diagnosis-Related Group or APR-DRG. Federal approval for the new payment method was granted on May 18, 2015 by the Centers for Medicare and Medicaid Services (CMS) through Medicaid State Plan Amendment 15-003. The APR-DRG method supports quality and efficient health outcomes, provides better access to care, and promotes a more predictable and transparent payment process.

The previous method paid hospitals through an interim per-diem rate with a case rate settlement which did not link inpatient stays to services provided or to case acuity. Additionally, there was no penalty for hospital readmissions, and no incentive to control pass-through costs. Hospitals were incentivized to take less complex cases and avoid cases with long anticipated lengths of stay.

Connecticut has the highest level of Medicaid costs per enrollee⁽¹⁾ and the APR-DRG method helps to control these costs by establishing a sound financial basis for the changing Medicaid environment. By supporting modern reimbursement methodologies, APR-DRG brings payment methods in-line with State and Federal policy goals while focusing on quality of care. Hospital payments can be established prospectively, and inpatient claims now utilize data such as diagnoses, procedures, age, and gender. This method is more precise in the recognition of acuity, and holds health care providers accountable for both the costs and quality of care. The APR-DRG method is also ICD-10 compliant, eliminating the need for settlement payments, which creates budgetary ease for both the Department of Social Services (DSS) and hospitals. Additionally, hospitals and DSS can now partner with Medicare to better develop innovative strategies that improve outcomes.

Most importantly, since the implementation of the APR-DRG method, initial analysis has verified that inpatient hospital payments have *remained cost neutral as intended*.

APR-DRG



Provides Better
Health Care Access
to *All* Medicaid
Patients

Quality and
Efficient Health
Outcomes

Predictable &
Transparent
Payment Process
for Hospitals

⁽¹⁾Kaiser State Health Facts, 2009 data



BACKGROUND

In 2013, the Legislature amended hospital statute C.G.S. 17b-239, giving necessary authority to DSS to implement an APR-DRG payment methodology:

(2) On or after July 1, 2013, Medicaid rates paid to acute care and children's hospitals shall be based on diagnosis-related groups established and periodically rebased by the Commissioner of Social Services ... The Commissioner of Social Services shall annually determine inpatient rates for each hospital by multiplying diagnostic-related group relative weights by a base rate. Within available appropriations, the commissioner may, in his or her discretion, make additional payments to hospitals based on criteria to be determined by the commissioner. Nothing contained in this section shall authorize Medicaid payment by the state to any such hospital in excess of the charges made by such hospital for comparable services to the general public.

An APR-DRG system is better suited for Connecticut's Medicaid population, and better able to control cost. DSS recognized that under the previous Medicaid reimbursement system, hospital-specific case rates were ineffective at controlling healthcare costs because:

- 1) Case rates do not adjust for acuity, severity of illness, or services provided.
- 2) Hospitals could discharge patients more quickly which could lead to increased readmissions.
- 3) Hospitals could avoid high acuity, complex cases that required the use of additional hospital resources.
- 4) There was no incentive to control pass-through costs. Pass-through costs are reimbursed by Medicaid, but are not included in the hospital's Medicaid case rate. These costs include capital, hospital-based physician costs, and graduate medical education (GME).

Case rates posed a burden on the State Medicaid claims payment system since the system was unable to make payments based on the individual hospital case rate. To compensate, hospitals were paid an interim per-diem rate based on their specific case rate and estimated pass-through costs. Under the settlement process, any payment balances were settled by reconciling the per-diem rate to the case rate and actual pass-through costs at year-end. Child behavioral health claims, children's hospitals, and stand-alone psychiatric facilities were paid a per-diem rate and were excluded from the case settlement process.

The benefits of adopting the APR-DRG meant greater administrative simplification, and DSS can now closely follow Medicare reimbursement regulations, which bases inpatient prospective payments on a system called Diagnosis-Related Groups (DRG). DRGs categorize patients under primary and secondary diagnoses, surgical procedures, age, and newborn birth-weights. DRGs were expanded into the APR-DRG method to include more inpatient pediatric, newborn, and pregnant women; a population segment critically important to the State's Medicaid program.



METHODOLOGY

Revenue Neutrality

DSS collaborated with consultants from Mercer LLC and Myers and Stauffer LC to develop hospital-specific APR-DRG reimbursement rates. The plan of action included project planning, strategy, APR-DRG design, and implementation.

Early in the planning process it was determined that the APR-DRG payment system would be revenue neutral during year 1 with implementation beginning on January 1, 2015. Neutrality meant hospitals generally would be reimbursed the same amount as they had been under the previous payment system, assuming the same utilization of services. However, if utilization patterns changed, payments would not be the same due to acuity or volume. The data and analysis used to calculate a revenue neutral base rate included the hospitals' 2012 Medicare costs reports and Medicaid cost settlement data from January 1, 2012 to September 30, 2012.

To create a hospital-specific, revenue neutral target dollar amount, the project team used each hospital's 2012 Medicaid inpatient reconciliation amount, inflated capital-related costs, organ transplant procurement costs, and allowed child behavioral health payments. Please see the following example:

Hospital-Specific Revenue Neutral Target Payment Calculation		Source: 2012 Medicaid Reconciliation (unless noted otherwise)
Lower of:		
a) 2012 Reconciliation Target Amount	\$41,409,146	Page 7, line 42
b) IP Operating Costs (excluding capital, provider-based physicians and medical education)	\$57,597,407	Page 7, line 39
Lower of 2012 Reconciliation Target or IP Operating Costs	\$41,409,146	Page 7, lines 35 & 36 plus
add: Inflated Capital-Related Costs	+ \$4,242,698	inflation of 17.76%
add: Heart and Liver Transplants	+ \$361,158	Page 8, lines 2a&b
add: Burn Units	+ \$0	Page 8, Line 2c
add: Medicaid Allowed Payments for Child BH Claims (paid but not included in reconciliation)	+ \$2,821,379	Child BH claim set from DSS/HP
subtract: Estimated Hospital Based Physician Portion for Child BH (\$22.66 per child BH day)	- \$67,549	Days from child BH claim set from DSS/HP
Hospital Specific Revenue Neutral Target	= \$48,766,832	

Note: Hospital based physician costs of \$22.66 per day were deducted from child behavioral health since it is expected that physicians will enroll and bill separately for the service.



Using nine months of data from the claim set, the project team estimated a number of variables that would be removed from the revenue neutral target amount. The team calculated child and adult behavioral health payments based on per diem rates and the number of days, and deducted the payments from the target amount with the intention of implementing a tiered per-diem payment model for behavioral health outside of the APR-DRG system. Two additional factors were considered in the analysis: outlier payments and Direct Coding Improvement (DCI).

Outlier Payments

The DSS project team recognized that hospitals may deal with high acuity cases that have greater resource utilization and lengths of stay, warranting additional payments for outlier cases. After considering various approaches, the team decided upon a statistical threshold model that calculated a hospital-specific target threshold amount, with a minimum threshold of \$30,000. If the cost of an APR-DRG is above the target threshold, it will be considered an outlier and the hospital will be reimbursed at **75% of the excess cost above** the APR- DRG payment and outlier threshold.

Claims from the data set were grouped into the APR-DRG categories, and hospital-specific outlier payments were estimated based upon the statistical threshold model. The outlier payments were removed from the calculation of revenue neutral target payment.

Calculate Hospital-Specific APR-DRG Base Rate	
Hospital-Specific Revenue Neutral Target Payments	\$48,766,832
subtract: Hospital-Specific Adult Behavioral Health Payments	- \$9,074,100
subtract: Hospital-Specific Child Behavioral Health Payments	- \$3,228,225
subtract: Hospital-Specific Rehab Payments	- \$0
subtract: Hospital-Specific Calculated Outlier Payments	- \$692,475
Hospital-Specific APR-DRG Revenue Neutral Target Payments	\$35,772,033

Direct Coding Improvement (DCI) Reserve

Under the previous per-diem payment and reconciliation system, diagnosis and procedure codes were not relevant to reimbursement. APR-DRG groups claims data into categories that are directly dependent upon the accuracy and completeness of the diagnosis and procedure codes assigned to the claims. With hospitals wanting to maximize their Medicaid reimbursement, improvements in coding would most likely occur. Any improvements in coding may result in higher payments than forecast and affect the State’s goal of maintaining revenue neutrality. To account for coding improvement, the DSS project team estimated a 5% increase in acuity. Practice patterns may likely change as more severe cases will be handled as inpatient cases, while low acuity cases may be referred to outpatient services. The DCI reserve is targeting an improvement in



coding due to accuracy, not practice patterns. The team recommended a decrease in the hospital-specific base rate of 4.76% that will be held back from hospitals as a reserve for year 1 of the APR-DRG implementation. It is expected that “real” acuity, where there are changes in case mix index (CMI) as hospitals’ practice patterns change, will increase by 4.55% based on data from the Department of Public Health, Office of Healthcare Access. A portion of the DCI reserve amount can be refunded or the hospital-specific base rates adjusted depending upon whether the DCI percentage is less than or greater than 9.55% expected acuity increase (sum of 5.0% and 4.55%).

Hospital-Specific Revenue Neutral Target less Behavioral Health and Rehab	=	\$35,772,033
multiply: DCI Reserve Factor % (1-1/(1+5%))	x	4.76%
Hospital-Specific DCI Reserve	=	\$1,703,440

Calculate Hospital-Specific APR-DRG Base Rate

Hospital-Specific Revenue Neutral Target Payments		\$48,766,832
subtract: Hospital-Specific Adult Behavioral Health Payments	-	\$9,074,100
subtract: Hospital-Specific Child Behavioral Health Payments	-	\$3,228,225
subtract: Hospital-Specific Rehab Payments	-	\$0
subtract: Hospital-Specific Calculated Outlier Payments	-	\$692,475
subtract: Hospital-Specific DCI Reserve	-	\$1,703,440
Hospital-Specific APR-DRG Revenue Neutral Target Payments		\$34,068,602

It is expected that coding improvements will only occur during the first year, and no further reserves should be withheld in subsequent years.

To achieve the base rate, the revenue neutral target payment is divided by a hospital-specific adjusted CMI and divided by the number of APR-DRG discharges in the claim data.

Hospital-Specific Inlier Portion Revenue Neutral Target Payments	=	\$34,068,602
divide by: Hospital-Specific CMI	/	0.9472
divide by: Hospital-Specific Number of APR-DRG Discharges	/	5,202
Hospital-Specific APR-DRG Base Rate		\$6914.29

APR-DRG Payment = Hospital Specific Base Rate x DRG weight



Below is a simplified version of the APR-DRG payment calculator from the DSS website:

<https://www.ctdssmap.com/CTPortal/Hospital%20Modernization/tabId/143/Default.aspx>.

Transfer payments to other hospitals, outlier payments, and third party payments are not shown in this example but are factored into the payment calculation. The APR-DRG combines the category number 135 with the SOI level 3.

APR DRG	1353
APR DRG description	Major Chest & Respiratory Trauma
APR DRG weight	1.2201
Average length of stay for this APR DRG	4.51
Hospital base rate	\$6,914.29
Payment Amount	\$8,436.13

The weights are national APR-DRG weights, not Connecticut-specific weights, and will be updated at the discretion of the Commissioner. To date, there are over 300 APR-DRG codes with severity of illness (SOI) levels and risk of mortality levels (ROM) from 1(mild) to 4 (extreme). Since payments are based on patient-centered acuity within a specific group, a higher acuity will result in a higher payment.

As previously mentioned, adult and child behavioral health claims and rehabilitation claims are excluded from the APR-DRG process and are paid separate per diem rates. However, when looking at revenue neutrality overall, claim data from these categories are added back to the fiscal analysis to gauge the overall impact.



OTHER CONSIDERATIONS

Physician Cost

Physician costs that were once included in the pass-through costs are not included in the APR-DRG base rate. DRGs are not designed to have a physician component. Physicians can bill separately for inpatient services off the DSS physician fee schedule. Graduate medical education (GME) that was also once part of pass-through costs is now calculated separately and handled as a supplemental payment to the hospitals.

Behavioral Health

Behavioral health (BH) DRGs 740 through 776 are paid a per-diem rate from a 3-tiered payment model. Each hospital is assigned a rate from one of the three tiers: Tier 1 is \$975, Tier 2 is \$1,050, and Tier 3 is \$1,125. Rates are the same for child and adult behavioral health categories to avoid rate disparities. Each hospital is assigned to a tier that approximates historical revenue levels for BH days. Hospitals that have designated distinct part units (DPU) for BH services have their costs taken into consideration in their tier assignment. If a hospital's change in revenue is negative, and its percentage of cost is less than 100%, the hospital is bumped up one tier unless it is assigned to the topmost tier. Hospitals without a DPU are assigned to the Tier 1 rate of \$975.

For the majority of the hospitals, payments based on the three-tiered system for adult and child BH were slightly higher than the average per diem payments under the case rate model. See Figure 1 and Figure 2 for further detail.



Figure 1: Adult BH Payments by Hospital - 1Q 2015

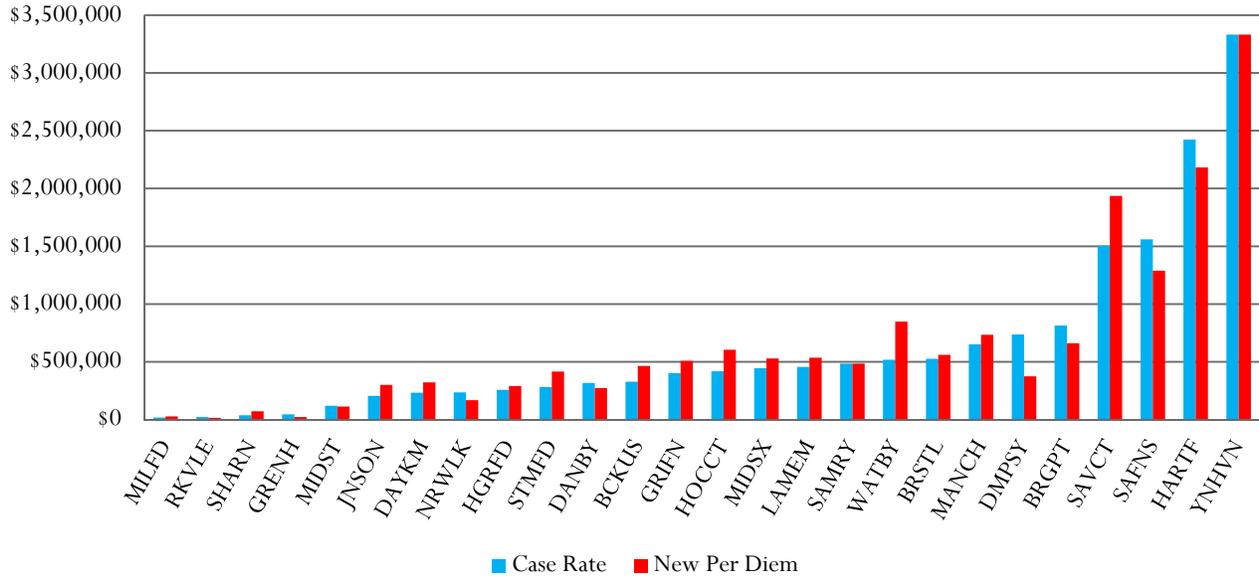
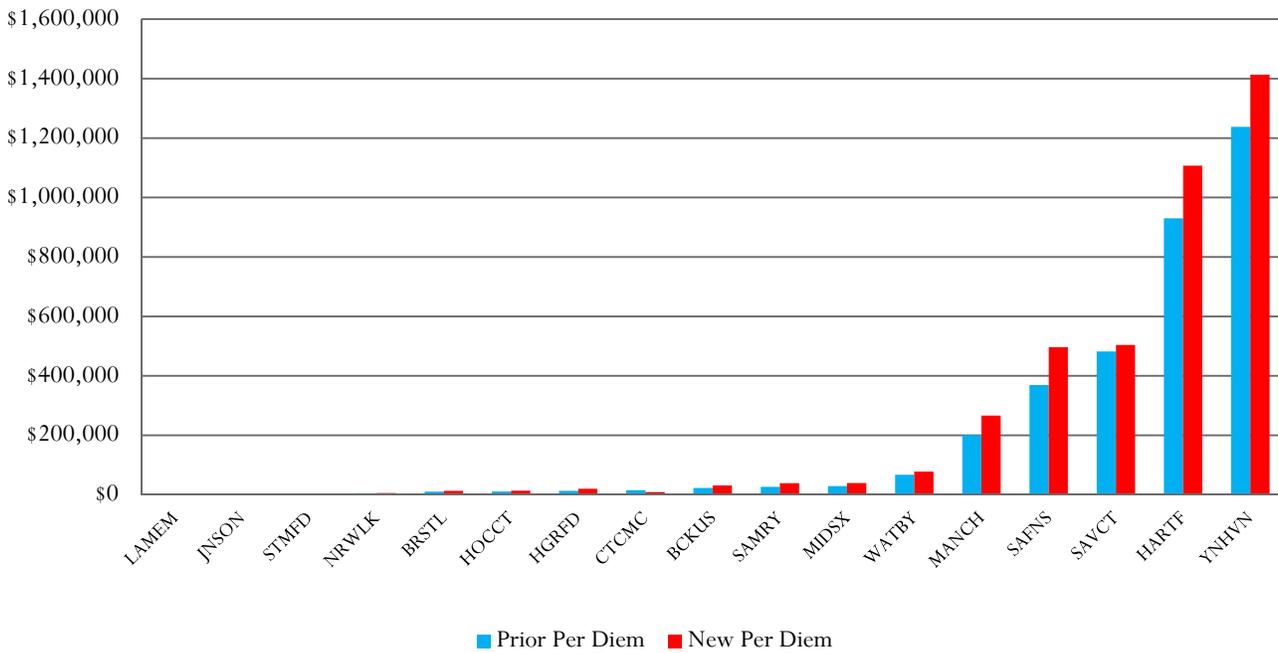


Figure 2: Child BH Payments by Hospital - 1Q 2015



Only general acute care hospitals are affected by DRGs and subsequent changes to behavioral health rates, therefore there are no changes to psychiatric hospital rates as this would be outside the project scope.



FISCAL ANALYSIS

A financial analysis was conducted by DSS to gauge the fiscal impact of the APR-DRG method. DSS gathered the most recent available payment information for 1Q 2015 and compared payment data to the old payment method.

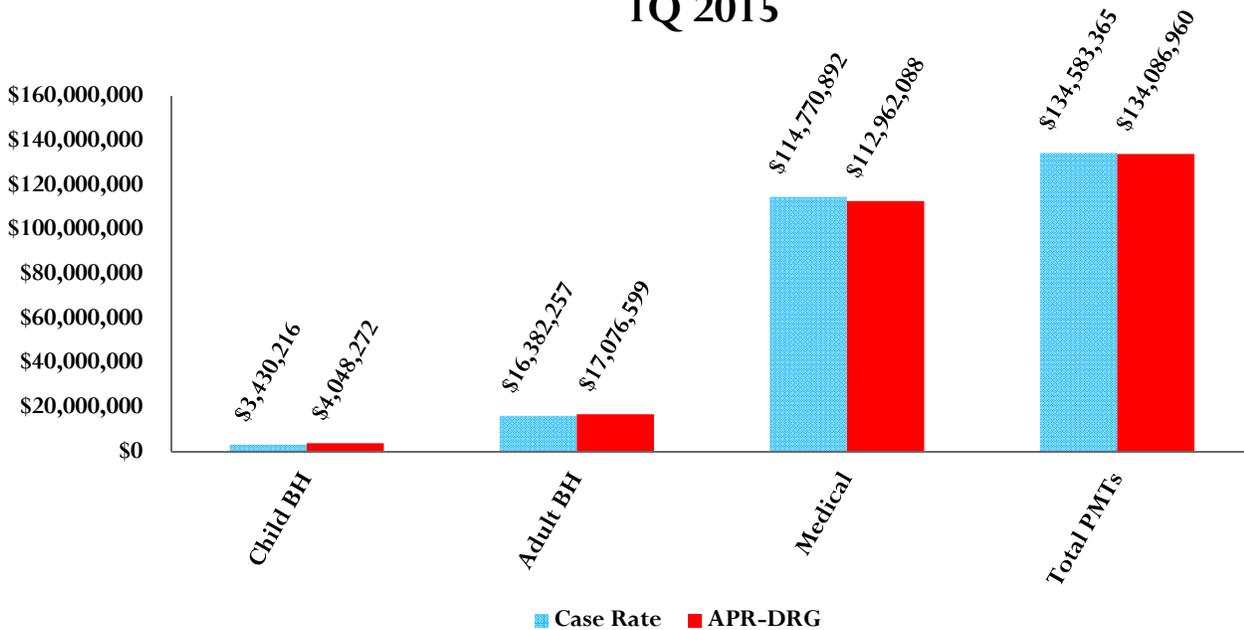
Case Rate Method: (old method) Case rate multiplied by the number of claims, plus capital costs and behavioral health per-diem payments

APR-DRG Method: (new method) Payments per hospital, plus behavioral health per diem payment equal total aggregate dollar amount

The result showed total payment under APR-DRG is lower than if the case rate method was used during the same time-period. In fact, the APR-DRG method resulted in a savings of \$496,405 when compared to the case rate method; percentage being -0.37% of the total APR- DRG payment (see Appendix A for details).

The bar graph below, Figure 3, illustrates that overall there was little difference between the APR- DRG methodology and the case rate payment method, further enforcing the APR-DRG goal of cost neutrality.

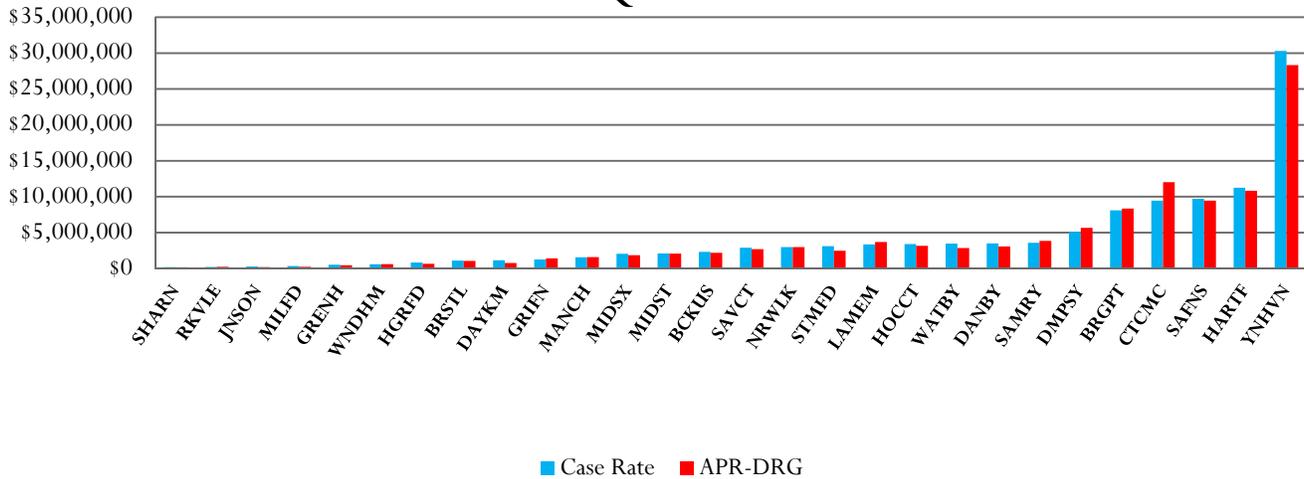
**Figure 3: Payment Comparison by Payment Type
1Q 2015**





DSS then reviewed medical claims data (Figure 4) to the difference in total payments between APR-DRG and the case rate methodology. The results showed (\$1,827,284) or -2% difference. Results indicate that payment difference between the two methods is minimal when compared hospital-by-hospital.

Figure 4: Inpatient Payment Comparison
1Q 2015



Based on the results, the APR-DRG payment model indicates revenue neutrality. There was little deviation in the total amount of payments between the case rate system and the APR-DRG system. APR-DRG payments by hospital remained consistent with previous case rate payments.



STAKEHOLDER PARTICIPATION & PROJECT TRANSPARENCY

DSS and the consulting teams worked in collaboration with hospitals, the Connecticut Hospital Association (CHA), and Office of Policy and Management (OPM) during the implementation of the APR-DRG payment system. The goals were to encourage active participation, foster transparency, develop open communication among stakeholders, encourage feedback, and adjust as necessary.

To adhere to the project goals, the DSS project team held three in-person presentations with CHA and hospital representatives. Presentations included an introductory session, a design session, and a design details session. Stakeholders were also notified of bi-weekly conference calls and webinars hosted by the project team. During the meetings, stakeholders were able to view agenda items, review issue papers, and address specific questions and comments.

A comprehensive web-based archive of information was made available on the DSS Hospital Reimbursement website at <http://www.ct.gov/dss/cwp/view.asp?a=4598&q=563926>. The website notified stakeholders when new content was posted through an email notification system called 'E-Alert'. The website also featured issue papers written by the project team. Issue papers addressed topics regarding 3M national weights (used to establish rates), coding improvements, outlier policy, revenue neutrality, and other decision points. Also featured on the website were updated State regulations, fiscal notes, drafts to OPM and the Governor's Office, public notices and state plan amendments.

POST IMPLEMENTATION AND LONG-TERM GOALS

The drivers of an APR-DRG method for inpatient hospital reimbursement are acuity and case mix index. DSS and the consulting teams will continue to monitor the new payment method and if increases are less than anticipated, DSS may explore additional modifications.

Regarding outpatient payment methods, the DSS project team is developing a methodology and policy for an Ambulatory Payment Classification (APC) system. Full implementation of the outpatient APC system is anticipated for January 1, 2016.

DRGs support modernization and innovative policies. DSS will look at other models including Episodes-of-Care and Accountable Care Organization (ACO) payment structures that are "bundled" for specific episodes. In these models, a single fee is paid to a healthcare organization, which then determines the distribution of payments to its physicians and allied health providers.



CONCLUSION

The APR-DRG payment model is designed to better align payment with services rendered, while accounting for acuity, and improving access to care and quality outcomes for inpatients. Revenue neutrality was built into the APR-DRG model to ensure that providers could generally expect the same reimbursement during the first year, while not adversely impacting access to care for patients. Based on the analysis of APR-DRG claims data for the first quarter of 2015, payments for both pediatric and adult psychiatric services were slightly higher and payments for medical services were slightly lower than under the previous system. The APR-DRG reimbursement methodology has maintained the important objective of overall revenue neutrality while continuing to address the needs of an expanding Medicaid population.



Appendix A

Summary of Inpatient Revenue Neutrality (Exc. GME and Physician)

Source Data January - March 2015

Hospital Name	DRG Methodology (New)				Case Rate Methodology (Old)				Reimbursement Inc. or (Dec.)	
	Inpatient	Adult BH	Child BH	Total	Inpatient	Adult BH	Child BH	Total	Dollars	Percentage
Bridgeport Hospital Inc	\$ 8,351,382	\$ 661,500	\$ -	\$ 9,012,882	\$ 8,098,202	\$ 813,883	\$ -	\$ 8,912,085	\$ 100,797	1%
Bristol Hospital	\$ 1,051,038	\$ 560,933	\$ 13,397	\$ 1,625,367	\$ 1,095,532	\$ 525,929	\$ 10,823	\$ 1,632,284	\$ (6,918)	0%
Connecticut Childrens Medical Center	\$ 12,032,049	\$ -	\$ 8,775	\$ 12,040,824	\$ 9,462,762	\$ -	\$ 15,572	\$ 9,478,334	\$ 2,562,490	21%
Danbury Hospital	\$ 3,078,783	\$ 273,975	\$ -	\$ 3,352,758	\$ 3,501,974	\$ 317,411	\$ -	\$ 3,819,384	\$ (466,626)	-14%
Day Kimball Hospital	\$ 760,436	\$ 323,400	\$ -	\$ 1,083,836	\$ 1,137,410	\$ 233,456	\$ -	\$ 1,370,867	\$ (287,030)	-26%
Greenwich Hospital	\$ 450,190	\$ 22,425	\$ -	\$ 472,615	\$ 515,856	\$ 45,616	\$ -	\$ 561,473	\$ (88,658)	-19%
Griffin Hospital	\$ 1,403,887	\$ 509,145	\$ -	\$ 1,913,032	\$ 1,267,421	\$ 402,930	\$ -	\$ 1,670,351	\$ 242,681	13%
Hartford Hospital	\$ 10,831,646	\$ 2,181,800	\$ 1,107,389	\$ 14,120,835	\$ 11,259,222	\$ 2,423,203	\$ 929,870	\$ 14,612,296	\$ (491,461)	-3%
Johnson Memorial Hospital	\$ 194,274	\$ 300,300	\$ 3,900	\$ 498,474	\$ 274,532	\$ 206,039	\$ 3,064	\$ 483,635	\$ 14,840	3%
Lawrence And Memorial Hospital	\$ 3,697,204	\$ 536,143	\$ 1,950	\$ 4,235,298	\$ 3,356,369	\$ 456,536	\$ 1,395	\$ 3,814,299	\$ 420,999	10%
Manchester Memorial Hospital	\$ 1,586,553	\$ 734,175	\$ 266,359	\$ 2,587,087	\$ 1,564,447	\$ 652,029	\$ 200,908	\$ 2,417,384	\$ 169,702	7%
Middlesex Hospital	\$ 1,845,195	\$ 529,279	\$ 39,375	\$ 2,413,848	\$ 2,048,265	\$ 444,827	\$ 29,513	\$ 2,522,605	\$ (108,757)	-5%
Midstate Medical Center	\$ 2,080,603	\$ 114,075	\$ -	\$ 2,194,678	\$ 2,104,114	\$ 120,491	\$ -	\$ 2,224,605	\$ (29,927)	-1%
Milford Hospital, Inc	\$ 235,830	\$ 28,275	\$ -	\$ 264,105	\$ 341,051	\$ 18,587	\$ -	\$ 359,638	\$ (95,533)	-36%
Norwalk Hospital Association	\$ 2,979,332	\$ 168,750	\$ 5,838	\$ 3,153,920	\$ 2,980,777	\$ 236,551	\$ 5,499	\$ 3,222,827	\$ (68,906)	-2%
Rockville General Hospital	\$ 237,834	\$ 16,575	\$ -	\$ 254,409	\$ 225,891	\$ 23,157	\$ -	\$ 249,048	\$ 5,361	2%
Sharon Hospital	\$ 166,662	\$ 72,150	\$ -	\$ 238,812	\$ 183,689	\$ 37,461	\$ -	\$ 221,150	\$ 17,662	7%
St Francis Hospital Medical Center	\$ 9,454,043	\$ 1,288,950	\$ 496,377	\$ 11,239,370	\$ 9,710,306	\$ 1,560,245	\$ 369,222	\$ 11,639,773	\$ (400,403)	-4%
St Marys Hospital	\$ 3,856,067	\$ 485,550	\$ 39,000	\$ 4,380,617	\$ 3,573,973	\$ 484,810	\$ 26,590	\$ 4,085,372	\$ 295,245	7%
St Vincents Medical Center	\$ 2,698,352	\$ 1,935,375	\$ 504,038	\$ 5,137,765	\$ 2,898,015	\$ 1,504,932	\$ 481,997	\$ 4,884,944	\$ 252,821	5%
Stamford Hospital	\$ 2,467,976	\$ 416,250	\$ 4,500	\$ 2,888,726	\$ 3,110,279	\$ 282,683	\$ 3,124	\$ 3,396,086	\$ (607,360)	-18%
State Of Connecticut	\$ 5,660,840	\$ 375,750	\$ -	\$ 6,036,590	\$ 5,113,932	\$ 736,982	\$ -	\$ 5,850,913	\$ 185,676	3%
The Charlotte Hungerford Hospital	\$ 662,018	\$ 291,375	\$ 20,250	\$ 973,643	\$ 846,802	\$ 258,056	\$ 13,544	\$ 1,118,402	\$ (144,760)	-15%
The Hospital Of Central Connecticut	\$ 3,172,117	\$ 605,475	\$ 13,906	\$ 3,791,498	\$ 3,414,291	\$ 418,915	\$ 11,031	\$ 3,844,238	\$ (52,740)	-1%
The William Backus Hospital	\$ 2,193,184	\$ 464,100	\$ 31,684	\$ 2,688,948	\$ 2,312,219	\$ 328,163	\$ 23,045	\$ 2,663,427	\$ 25,521	1%
Waterbury Hospital	\$ 2,852,386	\$ 849,225	\$ 78,000	\$ 3,779,611	\$ 3,467,934	\$ 517,714	\$ 67,342	\$ 4,052,989	\$ (273,378)	-7%
Windham Comm Mem Hospital	\$ 624,759	\$ -	\$ -	\$ 624,759	\$ 593,982	\$ -	\$ -	\$ 593,982	\$ 30,777	5%
Yale New Haven Hospital	\$ 28,337,449	\$ 3,331,650	\$ 1,413,555	\$ 33,082,654	\$ 30,311,643	\$ 3,331,651	\$ 1,237,678	\$ 34,880,973	\$ (1,798,319)	-5%
Total	\$ 112,962,088	\$ 17,076,599	\$ 4,048,272	\$ 134,086,960	\$ 114,770,892	\$ 16,382,257	\$ 3,430,216	\$ 134,583,365	\$ (496,405)	-0.37%

STATE OF CONNECTICUT HOSPITAL PAYMENT MODERNIZATION ISSUE PAPER — HOSPITAL REVENUE NEUTRALITY

Issue Description:	The Connecticut Department of Social Services (DSS) has selected a goal of hospital-specific revenue neutrality for the initial implementation of All Patient Refined Diagnosis Related Groups (APR-DRG) payments. The State of Connecticut (State) acute care hospital reimbursement is currently based on a hospital-specific target cost per discharge, as well as pass-through amounts calculated during a retrospective reconciliation process. As the State transitions to APR-DRG payments starting on January 1, 2015, how will hospital-specific revenue neutrality be addressed?
Analytical Lead:	James Matthisen
Contributors:	Amy Perry, Jean Ellen Schulik, Scott Simerly, Sarah Yahna
Revision Date:	November 3, 2014
Status:	Revised Draft

Overview

The initial implementation of the APR-DRG payment system is intended to be revenue neutral by hospital. Revenue neutrality will be based on 2012 hospital-specific reconciliation data. This issue paper identifies how the various components of the 2012 reconciliation process will be handled under the APR-DRG system.

Definition and Context

In this case “revenue neutrality” means:

1. A new, more accurate payment system will be developed based on an analytical data set.
2. The new payment system will generate the same revenue to each hospital as the current system, assuming the same utilization of services as contained in the analytical data set, subject to the approaches defined in the remainder of this paper.
3. By design, the revenue neutral system is *not* likely to generate the same payments as the prior system when utilization patterns change, however, because it more accurately recognizes current acuity.
 - A. If the first year utilization were exactly the same as the base year, revenue would remain the same.
 - B. If the first year utilization is almost identical, but with one higher acuity admission — revenue will increase accordingly (and be higher than the current method would generate).
 - C. If the first year utilization is almost identical, but with one lower acuity admission — revenue will decrease accordingly (and be lower than the current method would generate).

Current Payment Methodology

The current State acute hospital inpatient (IP) reimbursement methodology pays a hospital-specific per diem rate which is retrospectively reconciled to a hospital-specific per discharge target rate, plus a pass-through of other costs.

The basics of the current reconciliation formula include:

- The lower of: 1) program discharges x target amount per discharge; or 2) total program IP operating costs (excluding capital-related costs, provider-based physician costs, and medical education costs).

Plus:

- Capital-related costs for Medicaid IP routine and ancillary services.
- Program provider-based physician costs.
- Organ acquisition costs (kidney, liver, and heart).
- Medicare Severity DRG payments for heart and liver transplants (with offset of standard discharge payment).
- Costs for burn units certified by the American Burn Association.
- Direct graduate medical education (GME) payments.

Offset by:

- Indemnity payments — other party payors.
- Health care acquired condition (HCAC) payment adjustment.

In addition, under the current system there are various supplemental payments (for example, disproportionate share payments) made to hospitals which have been paid outside the reconciliation process, and will remain outside the APR-DRG system.

APR-DRG Payment Methodology

The new payment methodology is intended to establish prospective payment, and seeks to eliminate or limit the need for retrospective reconciliation. The table below addresses each of the items from the current reconciliation process with respect to its inclusion or exclusion from the new target amount:

Item from 2012 Reconciliation	Include in Target?	Notes
Lower of: 1) target amount; or 2) IP operating costs (excluding capital, provider-based physicians, and medical education)	Yes	2012 behavioral health and rehabilitation will be separately identified.
Capital-related costs for Medicaid IP routine and ancillary services	Yes	Capital costs based on 2012 reconciliation amounts. These costs will be inflated to estimate 2015 cost levels.
Program provider-based physician costs	No	Transitioning to direct billing under the professional fee schedules.

Item from 2012 Reconciliation	Include in Target?	Notes
Organ acquisition costs (kidney, heart, and liver)	No	Organ acquisition costs will be handled outside of the APR-DRG system.
Heart and liver transplants	Yes	Transplants will be paid via APR-DRG.
Costs for burn units certified by the American Burn Association	Yes	Burn admissions will be paid via APR-DRG.
Direct GME Payments	No	GME will be handled as a separate calculation and payment.
Indemnity payments — other party payors	No	Third party liability recoveries will be removed at the time of claims adjudication.
HCAC payment adjustment	No	Claims will be reduced for HCAC at the time of claims adjudication.

In addition, the target will include payments for child behavioral health (less the hospital based physician portion of those payments).

The process above results in total hospital revenue neutral target payments, which include IP claims that will be paid under an APR-DRG method and adult and child behavioral health and rehabilitation under a per diem method.

Total hospital target payments will be comprised of four separate categories:

1. Adult behavioral health claims.
2. Child behavioral health claims.
3. Rehabilitation claims.
4. APR-DRG claims.

Please see the file “Revenue Neutral Pro Forma Calc 20141009 DRAFT.pdf” for a sample calculation of the revenue neutral rate.

Follow-up Questions

In a meeting with hospitals and the Connecticut Hospital Association (CHA), questions arose around the interactions of the policies for outliers and transfers with the goal of revenue neutrality. Specifically, there were concerns that these policies could mathematically reduce the base rate, and that future year revenue neutrality will not be maintained if, for example, the number or ratio of outliers is not consistent with the data year.

Restating from above, for this project “revenue neutrality” means:

1. A new, more accurate payment system will be developed based on an analytical data set.
2. The new payment system will generate the same revenue to each hospital as the current system, assuming the same utilization of services as contained in the analytical data set, subject to the approaches defined in the remainder of this paper.
3. By design, the revenue neutral system is *not* likely to generate the same payments as the prior system when utilization patterns change, however, because it more accurately recognizes current acuity.

The discussion below attempts to add clarity on these topics:

Outliers

1. The outlier system pays more (and more accurately) for hospitals that experience the higher costs of the most difficult cases. This policy recognizes that acuity, and reduces disincentives to providing services that are associated with higher odds of outlier cases occurring (for example, immature neonates, trauma cases, etc.).
 - A. If the first year utilization were exactly the same as the base year, revenue would remain as modeled (revenue neutral).
 - B. If the first year utilization is almost identical, but with additional outlier admissions — revenue will increase accordingly (and be higher than the current method would provide). Payment will be more accurate because the costs associated with the first year's utilization will be higher as well.
 - C. If the first year utilization is almost identical, but with fewer outlier admissions — revenue will decrease (and be lower than the current method would provide), based on lower total acuity. Payment will be more accurate because the costs associated with the first year's utilization will be lower as well.

See the attached examples.

Transfers

1. For transfer cases, a full course of treatment is typically not provided, thus these cases generate lower cost cases than the average within a DRG. Thus, within a DRG reimbursement system, transfer cases receive a prorated payment to reflect these lower costs. The discussion with the hospitals on this topic was more focused on the definition of transfers than on the transfer payment policy. Two different kinds of transfers were identified:
 - A. Medical to Behavioral Health.
 - B. Medical to Medical (more acute facility).

DSS has determined that the Medical to Behavioral Health transfers will be treated as two separate payment events — an APR-DRG payment being made for the first event and per diem payment being made for the second event. These situations will be considered as two admissions and not trigger the “transfer payment policy”.

The transfer policy for the Medical to Medical transfer represented by discharge status of 02 and 05 (for which the DRG does not already represent a transfer case) and represents a very small portion of total costs, solves a difficult problem of paying the transferring hospital far too much, or nothing at all, and has the effect of increasing the base rate (relative to paying both facilities using a high cost APR-DRG weight). If DSS paid the full APR-DRG payment to both facilities, there would be an incentive for hospitals to increase the number of transfers. If DSS did not pay anything to the transferring facility, there could be an incentive to retain cases that would be better handled in a different facility.

The hospital from which the member is transferred will be reimbursed a per diem, based upon the DRG base payment divided by the DRG average length of stay. The resulting amount is multiplied by the sum of one plus the actual length of stay, not to exceed the total DRG base payment.

The hospital to which the member is transferred shall be reimbursed the full APR-DRG payment without any reduction due to the transfer.

Additional Follow-up Question on Outliers

In a subsequent teleconference with hospitals and the CHA, an additional request was made to consider implementing the 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 Question on Transfers

In a subsequent letter from the CHA, an additional request was made to consider implementing the transfer adjustment to hospital-specific base rates using an “all hospital average” approach.

Considerations

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

1. A hospital that transfers very few cases would have its base rate increased more based on the “average expected transfers” 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 transfers “fewer than average” cases, future year funding would be systematically higher as well.

2. A hospital that transfers many cases would have its base rate increased less based on the “average expected transfers” 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 transfers “more than average” cases, future year funding would be systematically lower as well.
3. As a result, this approach would transfer payment from those hospitals with many transfer cases to those with few — 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 Mercer understand that the hospitals do not receive special consideration for transfers on a case by case basis under the current payment approach. However, adjusting all hospitals by the same amount or ratio for transfers 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 the proposed transfer approach, represented by discharge status of 02 and 05 based on the guiding principles of the project and the desire for hospital-specific revenue neutrality. The impact of the transfer policy is expected to be small and will be modeled in the financial impact analysis.

Additional Follow-up Question on Capital

In a subsequent letter from the CHA, an additional request was made to consider applying inflation to the 2012 capital payments included in the analytical data set.

Considerations

This suggested approach adds a new level of estimation to the process, and changes the definition of revenue neutrality subtly. This approach to revenue neutrality has the conceptual appeal of making the change in method more clearly apply to the year of implementation, but it does require more assumptions and estimates than the original approach. It adds additional hospital funding through the use of assumed inflation rates on hospital capital allocation levels under the previous method.

Decision

DSS considers this proposed refinement in method to be consistent with the guiding principle of revenue neutrality (from any change in payment method) by adding additional specificity regarding the inflation in capital funding which likely would have affected the previous method in 2015. Mercer has been asked to develop an estimation process to derive 2015 expected levels of capital and to consider the data provided by CHA. This issue paper has been revised to incorporate this change in definition.



Payment Comparison with and without Outlier Claim

Example 1 — Reimbursement Methodology Includes an Outlier Policy

Outlier claims highlighted in red

Base Year Claim Set with Outlier Claim Present and Same Claim Set Paid with DRGs						Future Claim Set without Outlier Claim Present					Future Claim Set with an Additional Outlier Claim													
DRG	Claim Cost	DRG WT	Outl Thresh	DRG Paid	Outl Payment	DRG	Claim Cost	DRG WT	Outl Thresh	DRG Paid	Outl Payment	DRG	Claim Cost	DRG WT	Outl Thresh	DRG Paid	Outl Payment	DRG	Claim Cost	DRG WT	Outl Thresh	DRG Paid	Outl Payment	
A	12,000	2.1667		11,280.14		A	12,000	2.1667		11,280.14		A	12,000	2.1667		11,280.14		A	12,000	2.1667		11,280.14		
A	14,000	2.1667		11,280.14		A	14,000	2.1667		11,280.14		A	14,000	2.1667		11,280.14		A	14,000	2.1667		11,280.14		
B	15,000	2.2778		11,858.60		B	15,000	2.2778		11,858.60		B	15,000	2.2778		11,858.60		B	15,000	2.2778		11,858.60		
B	10,000	2.2778		11,858.60		B	10,000	2.2778		11,858.60		B	10,000	2.2778		11,858.60		B	10,000	2.2778		11,858.60		
B	16,000	2.2778		11,858.60		B	16,000	2.2778		11,858.60		B	16,000	2.2778		11,858.60		B	16,000	2.2778		11,858.60		
C	10,000	1.7778		9,255.50		C	10,000	1.7778		9,255.50		C	10,000	1.7778		9,255.50		C	10,000	1.7778		9,255.50		
C	10,000	1.7778		9,255.50		C	10,000	1.7778		9,255.50		C	10,000	1.7778		9,255.50		C	10,000	1.7778		9,255.50		
C	12,000	1.7778		9,255.50		C	12,000	1.7778		9,255.50		C	12,000	1.7778		9,255.50		C	12,000	1.7778		9,255.50		
C	55,000	1.7778	40,000	9,255.50	11,250	20,505.50						C	55,000	1.7778	40,000	9,255.50	11,250	20,505.50						
D	2,500	0.4611		2,400.64		D	2,500	0.4611		2,400.64		D	2,500	0.4611		2,400.64		D	2,500	0.4611		2,400.64		
D	3,000	0.4611		2,400.64		D	3,000	0.4611		2,400.64		D	3,000	0.4611		2,400.64		D	3,000	0.4611		2,400.64		
D	2,800	0.4611		2,400.64		D	2,800	0.4611		2,400.64		D	2,800	0.4611		2,400.64		D	2,800	0.4611		2,400.64		
Total	162,300	19.6611		102,360.00	11,250	113,610.00	107,300	17.8833		93,104.50	93,104.50	217,300	21.4389		111,615.50	11,250	134,115.50							
Avg Cost	13,525.00																							
Current rate at 70% of cost	9,467.50																							
Total Paid	113,610.00			102,360.00	11,250	113,610.00																		
Cost Coverage	70.00%					70.00%				86.77%														61.72%

DRG Rate Determination

Total Paid	113,610.00
Outlier Carve-Out	11,250.00
Inliers	102,360.00
Total Weight	19.6611
Rate	5,206.22

Example 2 — Reimbursement Methodology Does Not Include an Outlier Policy

Outlier claims highlighted in red

Base Year Claim Set with Outlier Claim Present and Same Claim Set Paid with DRGs				Future Claim Set without Outlier Claim Present				Future Claim Set with an Additional Outlier Claim				
DRG	Claim Cost	DRG WT	DRG Paid	DRG	Claim Cost	DRG WT	DRG Paid	DRG	Claim Cost	DRG WT	DRG Paid	
A	12,000	2.1667	12,519.89	A	12,000	2.1667	12,519.89	A	12,000	2.1667	12,519.89	
A	14,000	2.1667	12,519.89	A	14,000	2.1667	12,519.89	A	14,000	2.1667	12,519.89	
B	15,000	2.2778	13,161.94	B	15,000	2.2778	13,161.94	B	15,000	2.2778	13,161.94	
B	10,000	2.2778	13,161.94	B	10,000	2.2778	13,161.94	B	10,000	2.2778	13,161.94	
B	16,000	2.2778	13,161.94	B	16,000	2.2778	13,161.94	B	16,000	2.2778	13,161.94	
C	10,000	1.7778	10,272.73	C	10,000	1.7778	10,272.73	C	10,000	1.7778	10,272.73	
C	10,000	1.7778	10,272.73	C	10,000	1.7778	10,272.73	C	10,000	1.7778	10,272.73	
C	12,000	1.7778	10,272.73	C	12,000	1.7778	10,272.73	C	12,000	1.7778	10,272.73	
C	55,000	1.7778	10,272.73	C	55,000	1.7778	10,272.73	C	55,000	1.7778	10,272.73	
D	2,500	0.4611	2,664.49	D	2,500	0.4611	2,664.49	D	2,500	0.4611	2,664.49	
D	3,000	0.4611	2,664.49	D	3,000	0.4611	2,664.49	D	3,000	0.4611	2,664.49	
D	2,800	0.4611	2,664.49	D	2,800	0.4611	2,664.49	D	2,800	0.4611	2,664.49	
Total	162,300	19.6611	113,610.00	Total	107,300	17.8833	103,337.27	Total	217,300	21.4389	123,882.73	
Avg Cost	13,525.00											
Discharge rate at 70%	9,467.50											
Total Paid	113,610.00											
Cost Coverage	70.00%		70.00%				96.31%					57.01%

Summary

Outlier policies help to mitigate risk if outlier cases occur. As seen in the examples above, if a hospital has an outlier in the base year claim set but fewer outliers in future years, their cost coverage increases regardless if there is or is not an outlier payment methodology in place. If additional outlier cases occur in future years, cost coverage will decrease regardless. However, with an outlier payment methodology in place, this reduction in cost coverage is mitigated.

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

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.

Issue Description:

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Revision Date: December 9, 2014

Status: Revised Draft

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

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

STATE OF CONNECTICUT HOSPITAL PAYMENT
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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.

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%

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

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

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

Example Four — No Change in CMI

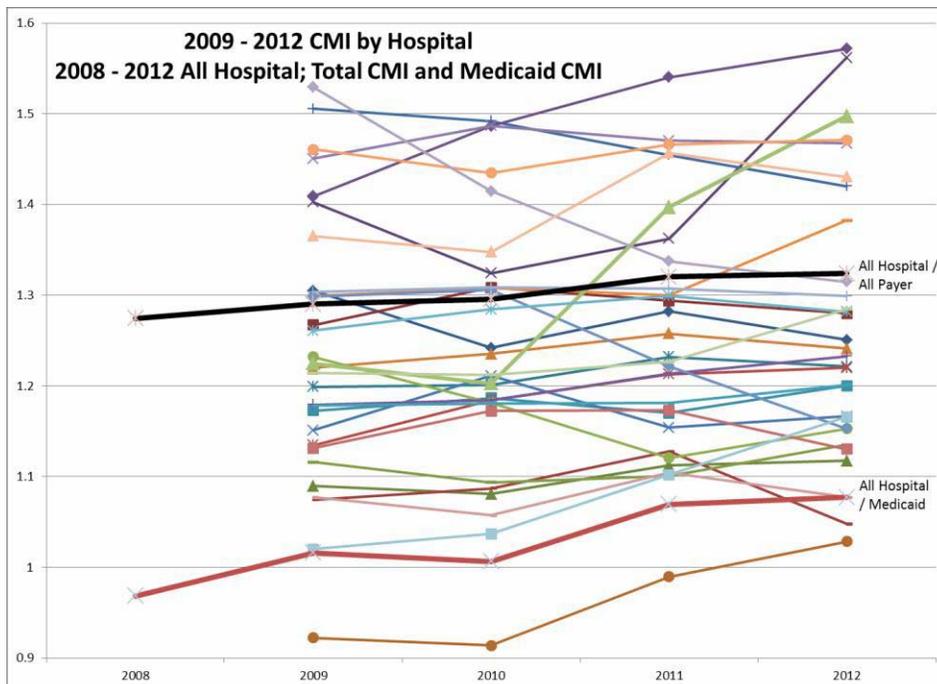
2015 aggregate CMI	1.00
2015 allowable aggregate CMI	1.0455
2015 coding improvement (1.0–1.0455, minimum 0)	0.00
Expected year one coding improvement	0.05
Coding improvement above/below expected (Refund 5% to hospitals)	-0.05

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.

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 ($.7612 \times (1+.0455) \times (1+.05)$), DCI-RRP = 0%.
 - B. If 2015 Statewide CMI is less than or equal to 0.7958 ($.7612 \times (1+.0455)$), DCI-RRP = 100%.
 - C. If 2015 Statewide CMI is between 0.7958 and 0.8356, then a proportionate DCI-RRP will be calculated as: $DCI-RRP = (0.8356 - \text{Statewide CMI}) / (0.8356 - 0.7958)$.
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	$q=n*o*p$