Kentucky Department for Medicaid Services
Upper Payment Limit Methodology

This describes the methodology for calculating the Commonwealth of Kentucky's ("Commonwealth") inpatient hospital upper payment limits ("UPLs"). The Department's UPL methodology is in accordance with UPL guidance set forth by the Centers for Medicare and Medicaid Services ("CMS").

Overview of the Upper Payment Limit Methodology

The Commonwealth estimated the inpatient UPLs for the most recent state fiscal year by calculating a reasonable estimate of what would have been paid for Medicaid services using Medicare payment principles, by provider class. If the Medicaid payments for those services were equal to or less than the reasonable estimate of what would have been paid using Medicare payment principles, the Commonwealth met the UPL test.

For the inpatient hospital UPL analysis, the Commonwealth used various approaches to estimate what hospitals would have been paid using Medicare payment principles. These approaches are summarized as follows:

- *Private and non-state governmental owned acute hospitals*: Estimated payments under the Medicare Inpatient Prospective Payment System ("IPPS") payment methodology for the Federal Fiscal Year ("FFY") that most closely matches the UPL time period

- *Privately-owned psychiatric and rehabilitation distinct part units ("DPU"), and freestanding psychiatric, rehabilitation, and long-term acute care hospitals*: Estimated costs using the Medicare TEFRA approach (same approach as the outpatient analysis)

- *State-owned or operated university teaching hospitals*: Comparison of case-mix adjusted payment per discharge between Medicare and Medicaid for the UPL time period. These calculations have been made separately and are not included in this narrative.

Overview of Data Used for Analysis

The following data sources were used in the UPL calculations:

- Fee-for-service ("FFS") inpatient Medicaid claims data from the Medicaid Management Information System ("MMIS") for with dates of service that are within the UPL time period

- Most recently available Form CMS 2552 ("Medicare cost report") data extracted from the Healthcare Cost Report Information System ("HCRIS") dataset

- Supplemental Medicaid payment data from the Commonwealth as calculated in accordance with sections found in Attachment 4.19-A.

Development of UPL Analysis

The following summarizes the steps involved in the development of the UPL amounts for inpatient hospital services.

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Step 1:	Assigned Providers Into Provider Classes
Step 2:	Calculated Reasonable Estimate of What Would Have Been Paid Under Medicare Payment Principles
Step 3:	Determined Total Payments for Medicaid Services
Step 4:	Compared Medicare Payments to Medicaid Payments for Each Provider Class

Each step is described in detail below.

Step 1: Assigned Providers Into Provider Classes

Per Federal UPL regulations, hospitals were placed into three provider classes:

- State-owned or operated
- Non-state government-owned or operated
- Privately-owned or operated

These provider class designations were determined via correspondence with staff from the Kentucky Office of the Inspector General, Division of Health Care Facilities and Services.

Step 2: Calculated Reasonable Estimate of What Would Have Been Paid Under Medicare Payment Principles

Inpatient UPL analysis

There are several approaches to estimating Medicare payments for inpatient services, depending on the type of facility. These approaches are described as follows.

A. Non-state governmental and Privately-Owned Acute Hospitals

Kentucky Medicaid reimburses FFS acute inpatient hospital claims on a prospective basis using the Medicare Diagnosis Related Group ("DRG") Grouper. As such, it was reasonable to estimate what

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payments would have been under the Medicare Inpatient Prospective Payment System ("IPPS") methodology for the same services paid by Medicaid during the UPL time period. The steps to estimating the Medicare IPPS payments are described as follows:

1) Medicare Rate Data: Medicare IPPS rate components were extracted from following sources (shown in Table 1):

Table 1: Medicare IPPS Rate Components

Medicare IPPS Rate Component	Source
• National Adjusted Operating Standardized Amounts, broken out by Labor and Non-Labor Components • Capital Standard Federal Payment Rates • Diagnosis Related ("DRG") Classifications, Relative Weights and Geometric Mean Average Length of Stay ("GLOS") • Post Acute Transfer DRGs	"Final Rule" Federal Register
• Wage indices • Geographic Adjustment Factors ("GAF") • Operating IME Adjustment Factors • Capital IME Adjustment Factors • Other Hospital ("HSP") Factors • Medicare Hospital Aggregate Operating and Capital CCRs	CMS IPPS Final Rule Data Files and Tables
• Quarterly Price Index Levels	CMS PPS Hospital Input Price Index Levels, published by IHS Markit

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2) Medicare IPPS Rates: Medicare payment rates were determined as follows:

a) Acute Base Rates: Operating and capital acute base rates were calculated for each hospital. For operating, the labor portion of the National Adjusted Operating Standardized Amount was adjusted by facility wage index. For capital, the full Capital Standard Federal Payment Rate was adjusted by facility GAF.

b) Indirect Medical Education ("IME") Factors: operating and capital IME factors were obtained from the Medicare IPPS Final Rule public use file. .

c) Disproportionate Share Hospital ("DSH") Payment per Discharge Factors: DSH factors were determined for each hospital using Medicare DSH payments amounts and discharge information reported on the Medicare cost report.

d) Hospital-Specific ("HSP") Factor: Operating HSP factors were extracted from the IPPS Final Rule public use file for qualifying Sole Community Hospitals and Medicare Dependent Hospitals.

3) Development of Inpatient Paid Claims Database: Payments under the annual FFY IPPS methodology were calculated using Medicaid inpatient claims. Payments were calculated based on the assigned DRG classification, discharge status, submitted charges and length of stay from the claims data.

a) Non-transfer claims: For claims where the patient was not discharged to another hospital, DRG payments were estimated by multiplying the DRG relative weight by the operating and capital base rates. For qualifying hospitals, IME, DSH and HSP payments were estimated by multiplying the respective factors by the operating and capital DRG payments.

b) Normal Transfer Claims: For claims where the patient was discharged to another hospital and the DRG was not designated as special post-acute transfer, payments were estimated based on the transfer adjustment.
i. The transfer adjustment was calculated as follows:

(Length of stay +1)/(DRG GLOS)

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ii. If the transfer adjustment was less than 1.0, payments were estimated by multiplying the total payment under the non-transfer claim methodology by the transfer adjustment

iii. If the transfer adjustment was greater than or equal to 1.0, payments were estimated using the non-transfer claim methodology

c) Special Post-Acute Transfer Claims: For claims where the patient was discharged to another hospital and the DRG was designated as a special post-acute transfer, payments were estimated based on the special transfer adjustment:

i. The special transfer adjustment was calculated as follows: 0.5 +[((Length of stay +1)*0.5)/(DRG GLOS)]

ii. If the special transfer adjustment was less than 1.0, payments were estimated by multiplying the total payment under the non-transfer claim methodology by the special transfer adjustment

iii. If the special transfer adjustment was greater than or equal to 1.0, payments were estimated using the non-transfer claim methodology

d) Outlier Claims: A claim qualified for an outlier payment if the total costs, estimated by multiplying Medicare hospital aggregate CCRs by submitted charges, exceeded the total outlier threshold. The total outlier threshold equaled the sum of the Medicare IPPS fixed loss amount and the full DRG payment, including IME and DSH payments. For transfer claims, the outlier threshold was multiplied by the transfer adjustment.

If a claim qualified for an outlier payment, outlier payments were calculated as follows:

i. Outlier payment:

[(Claim Cost) - (Outlier Threshold)]*(Marginal Cost Factor)

ii. Marginal cost factor: 90% for DRGs with an MDC of 22 (Burn) and 80% for all other DRGs

e) Medicare payments were determined for every inpatient claim, resulting in an inpatient paid claims database

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f) Using the inpatient paid claims database, Medicare payments by provider were determined.

4) Medicare IPPS Direct GME payments: Medicare reimburses teaching hospitals for the Direct GME costs related to the Medicare program. Medicare direct GME payments were estimated by determining the direct GME cost related to the Medicaid program. Direct GME payments were calculated as follows:

a) Total provider direct medical education costs were estimated using Medicare GME payments and discharge information reported on the Medicare cost report. Medicare GME payments were divided by reported discharges to determine a per discharge GME cost. b) The Medicaid portion of the direct GME costs was estimated by multiplying Medicaid days times the GME payment per discharge determined in paragraph a.

5) Other Medicare IPPS Payments: Additional Medicare payments were added to the UPL demonstration for various payment programs from E part A of the cost report, including:

- High Percentage ESRD Beneficiary Discharges (Acuity Adjusted)
- New Technology Add-ons (Acuity Adjusted)
- Credits Received from Manufacturers for Replacement Devices (Acuity Adjusted)
- Organ Acquisition Costs
- Cost of Teaching Physicians
- Routine Service Pass-Throughs
- Ancillary Services Pass-Throughs

Acuity adjusted payments were divided by the ratio of Medicaid case mix index (CMI) to Medicare CMI to account for differences in patient acuity between the two demographics. Payments were then divided by total discharges reported on the Medicare cost report and multiplied by Medicaid discharges to estimate the Medicaid portion of the costs.

B. Psychiatric and Rehabilitation DPUs, Freestanding Psychiatric, Rehabilitation, and Long-term Acute Care Hospitals

Kentucky Medicaid reimburses all claims from psychiatric and rehabilitation DPUs and freestanding psychiatric, rehabilitation, and long-term acute care hospitals on a per diem payment basis. As such, it was not reasonable to estimate payments under Medicare's Inpatient Psychiatric Facility Prospective Payment System ("IPF PPS") or Inpatient Rehabilitation Facility Prospective Payment System ("IRF PPS") Methodologies. In lieu of replicating Medicare's payment methodologies, the Commonwealth used estimated TEFRA costs as a reasonable proxy for Medicare payments for hospital DPU and freestanding hospital claims.

Inpatient services include both routine and ancillary costs. Routine costs were estimated by applying cost per diems from the appropriate subprovider line on D-1 part II of the Medicare cost report to Medicaid patient days reported by the MMIS, while ancillary costs were estimated by applying cost-to-charge ratios from C part I, column 9 of the Medicare cost report to Medicaid claim ancillary charges reported by the MMIS. MMIS charges were allocated to Medicare cost centers utilizing hospital-specific groupings on subprovider worksheet D-3, Title XIX of the Medicare cost report.

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1) Inflation Factors: After routine and ancillary costs were calculated for each hospital DPU, inflation factors were developed to inflate costs to the UPL time period.

   a) Price index levels were extracted from the CMS Prospective Payment System Hospital Input Price Index

   b) The midpoint of each hospital Medicare cost report fiscal year was determined

   c) Inflation factors were calculated based on the percentage change in Price Index Levels from the midpoint of each hospital's Medicare cost report to the midpoint of the UPL time period

Step 3: Determined Total Payments for Medicaid Services

For the inpatient hospital analyses, Medicaid FFS payments for each hospital were determined based on amounts reported in the MMIS for each claim in the FFS claims data. Other supplemental Medicaid payments amounts received from the Commonwealth were included in the inpatient UPL analysis. The Medicaid payments included in the UPL analysis are described detail below:

A. FFS Medicaid Payments: Using the inpatient paid claims databases from the MMIS, total FFS Medicaid inpatient payments were calculated by summing all applicable Medicaid payment fields for each hospital.

B. Other Supplemental Inpatient Medicaid Payments:

   1) Direct GME Payments: Based on Medicaid direct graduate medical education payments.

   2) Intensity Operating Allowance ("IOA") Payments: Based on Medicaid IOA payments to teaching hospitals.

   3) Level II Neonatal Payment: Based on Medicaid Level II Neonatal payments to Central Baptist (if applicable)

   4) All other payments that may be made determined on a year by year basis.

Step 4: Compared Medicare Payments to Medicaid Payments for Each Provider Class

After calculating Medicaid payments and a reasonable estimate of Medicare payments for each hospital, subtotals were calculated for each provider class. The remaining limit for each provider class was determined by subtracting total Medicaid payments from total estimated Medicare payments. If the difference was positive, there was remaining limit, and the provider class passed the UPL test. If the difference was negative, there was no remaining limit, and the provider class did not pass the UPL test.

University of Louisville Hospital and University of Kentucky Hospital
Upper Payment Limits Demonstration Calculations
FYE (Providers Fiscal Year End)

Step 1: Find Medicare per case rate with case mix removed

1.	Portions of Medicare Payments for (Fiscal Year End) Subject to Case Mix Index		
a.	Other than Outlier payments (MCR Wksht E part A Line 1)		
b.	IME Adjustment (MCR Wksht E Part A Line 29)		
c.	DSH Adjustment (MCR Wksht E Part A Line 34)		
d.	Capital Adjustment (MCR Wksht. E Part A Lines 50 and 51)		
e.	Credits received from manufacturers for replaced devices (Wksht E Part A Line 68)	$	
f.	Total Medicare Payments Subject to Case Mix Index (total lines 1a through 1d, less line 1e)		
2.	Adjustment for Case Mix Index		
a.	Medicare Case Mix Index-From Medicare annual PS&R Reports		
b.	Case Mix Adjusted Total Payments (ln 1f/ln 2a)		#DIV/o!
3.	Medicare Payments for (Fiscal Year End) not subject to case mix index		
a.	Outlier Adjustment (MCR Wksht E Part A Line 2.)		
b.	GME adjustment (MCR Wksht E Part A Line 52) – Excluding Medicare Part B		
c.	PPS Exempt Psych Unit (MCR Wksht E-3 Part 1 Ln 4)	$	
d.	New Technology & Organ Acquisition pass-thru (MCR Wksht E Part A Lines 54 and 55)	$	
e.	Routine service pass-thru (Wksht E Part A Line 57)		
f.	Other ancillary other pass-thru (Wksht E Part A Lines 53 and 58 and E Part B Ln 9)Total Medicare		
g.	Payments Not Subject to Case Mix Index (total lines 3a through 3f)	$	
4.	Total Medicare Payment		#DIV/0!
5.	Medicare Discharges (MCR Wksht. S-3 Part 1 Line 12)-Reconciled to Medicare annual PS&R Reports		

Step 2: Find Medicaid per case rate with case mix removed

6.	Medicaid Payments for (Fiscal Year End) Subject to Case Mix Index	
a.	Medicaid Inpatient Payments subject to CMI-Reconciled to the annual Medicaid Paid Claims Listing	
7.	Adjustment for Case Mix	
a.	Medicaid Case Mix Index Using Medicare Weights (Internal Report)-Reconciled to the Medicaid MMIS.	
b.	Case Mix Adjusted Total Payments (In 6a/In7a)	*DIV/0!
8.	Medicaid Payments not subject to case mix index-Reconciled to the annual Medicaid paid claims listing.	

a.	Outlier adjustment		
b.	GME adjustment (Annual Payment)		
c.	PPS Exempt Psych Unit Payments		
d.	Transplants (Internal Reports Match to Medicaid Remittance)-reconciled to the Medicaid MMIS		
e.	Total Medicaid Payments Not Subject to Case Mix Index (total lines 8a thru 8d)	$	
9.	Total Medicaid payment with case mix removed (IN 7b + In 8e)		#DIV/0!
10.	Calculate Per Case Payment		
a.	Medicaid Discharges-Reconciled to the Medicaid MMIS.		
b.	Per case Medicaid rate with case mix removed (In 9/In 10a)		#DIV/0!
Step 3: Calculate UPL Gap			
11.	Per Case Differential from Medicare payments subject to case mix (Ln 2b/Ln 5) – (Ln 7b/Ln 10a)		#DIV/0!
12.	Per Case Differential adjusted for Medicaid case mix using Medicare weights (Ln 11 x Ln 7a)		#DIV/0!
13.	Available Gap Under Case Mix Portion of UPL for UPL Payment (Ln 12 x Ln 10a)		#DIV/0!
13.1	Per Case Differential from Medicare Payments, Not Subject to Case Mix (Ln 3g/Ln 5a) – (Ln 8e/Ln10a)		#DIV/0!
13.2	Available Gap Under Non-case Mix Portion of UPL for UPL Payment (Ln 13.1 X Ln 10a)		#DIV/0!
13.3	Available UPL Gap for U PL Payment (Ln 13 + Ln 13.2)		#DIV/0!
Step 4: Inpatient Charges			
14.	Total Medicaid Inpatient Charges-Reconciled to the Medicaid MMIS.	$	
15.	Medicaid Inpatient Payments-Reconciled to the Medicaid MMIS.		
16.	Medicaid Charge Gap (Ln 14 – Ln 15)	$	
Step 5: UPL Gap Available			
17.	Less of Charge Gap (Ln 16) or UPL Gap (Ln 13.3)		#DIV/0!
Step 6: Calculate Federal Payment Available			
18.	Federal Matching Percentage	$	
19.	Federal Incremental Payment (Ln 17 x Ln 18)		#DIV/0!
20.	State Match (Line 17 – Ln 19)		#DIV/0!

NOTE:

1. This worksheet shall include all Medicare & Medicaid payments EXCEPT Medicaid DSH
2. All MCR reference are to the CMS 2552-10 cost report forms. In the event the cost report report forms are revised all data will be from the applicable forms of the new cost report.
3. Medicaid discharges shall include 0 paid discharges.
4. Medicaid Management Information System

Certified Public Expenditures incurred in providing services to Medicaid recipients.

The Kentucky Medicaid Agency uses the CMS Form 2552 cost report for its Medicaid program and all acute care hospitals must submit this report each year. The Agency will utilize Worksheet Series S, B, C and D to determine the cost of services provided to Medicaid recipients to be certified as public expenditures (CPE) from the CMS Form 2552 for inpatient services provided by hospitals. The Agency will use the protocol as described below.

Interim Payment

Interim payments will be made through the state Medicaid Management Information System (MMIS) and paid based on the approved Diagnosis Related Grouper (DRG) payment, per diem payments, fee schedule payments and/or dedicated on-demand payments through the state eMARS system.

Cost of Medicaid

1. **Interim Reconciliation of Interim Medicaid Inpatient Hospital Payment rate Post Reporting Year:** Upon completion of the State fiscal year, each hospital's interim payments and supplemental payments will be reconciled to its CMS Form 2552 cost report as filed to the fiscal intermediary (FI) for purposes of Medicare reimbursement for the respective cost reporting period. For hospitals that have a cost reporting period that differs from the State fiscal year end date of June 30th, the cost reports that overlap the State fiscal year will be used for the calculation. The reconciliation will occur upon receipt of the electronic CMS Form 2552 cost report that includes the June 30th fiscal year end of the State.

   The State will apply the cost per diems calculated on the Medicare Worksheet D-1 Part II lines 38 and 42-47 to the respective routine days from Worksheet S-3, Part 1, Medicaid column, to determine Medicaid routine service cost for acute services. The cost per diem calculated on Medicare Worksheet D-1, Part II, line 38 for each subprovider will be applied to the respective days on worksheet S-3, Part 1, Medicaid column. Cost to charge ratios calculated on the Medicare Worksheet D-4 or D-3 will be applied to the Medicaid inpatient ancillary charges related to CMS ancillary service cost centers to determine Medicaid inpatient ancillary service cost. A calculation will be made to add back the cost of graduate medical education to the cost per diems and cost to charge ratios, if removed as a step-down adjustment on Worksheet B, Part I columns 22 and 23. The Medicaid days and charges are reconciled to MMIS paid claims data.

   In addition to the cost calculated through application of cost per diems to routine service days and cost to charge ratios to ancillary charges, a calculation of organ acquisition cost will be made for transplant approved hospitals eligible to certify public expenditures.

The Worksheet D-6 or D-4 series with the inclusion of medical education cost as stated above for each organ will be used to determine organ acquisition cost. The total amount of Medicaid organ acquisition cost will be calculated as follows: Total organ acquisition cost per Worksheet D-6 or D-4 Part III Line 53 or 61 divided by Total usable organs per Worksheet D-6 or 0-4 Part III Line 54 or 62 times number of Medicaid organs (fee for service) transplanted during the year.

Total Medicaid inpatient cost therefore will be the sum of routine service cost, ancillary service cost, graduate medical education cost, and organ acquisition cost. Any Medicaid payments (other than the interim payments provided in this protocol) and third party and client responsibility payments are deducted from the total Medicaid inpatient cost to determine the certifiable amount. The State will compare the interim payments made to the interim Medicaid cost computed here for each hospital. Any difference to the reimbursement amount will be recorded as an adjustment on the CMS 64 report.

2. Final Reconciliation of Interim Medicaid Inpatient Hospital Payment Rate Post Reporting Year: Upon issuance of a Notice of Program Reimbursement for CMS Form 2552 cost report(s) that incorporate the State fiscal year, each hospital's interim reconciliation will be reconciled to its CMS Form 2552 cost report as adjusted by the fiscal intermediary (FI) for purposes of Medicare reimbursement for the respective cost reporting period(s). For hospitals that have a cost reporting period that differs from the State fiscal year end date of June 30th, the cost reports that overlap the State fiscal year will be used for the calculation.

The State will apply the cost per diems calculated on the Medicare Worksheet D-1 Part II lines 38 and 42-47 to the respective routine days from Worksheet S-3, Part 1, Medicaid column to determine Medicaid routine service cost for acute services. The cost per diem calculated on Medicare Worksheet D-1, Part II, line 38 for each subprovider will be applied to the respective days on Worksheet S-3, Part 1, Medicaid column. Cost to charge ratios calculated on the Medicare Worksheet D-4 or D-3 will be applied to the Medicaid inpatient ancillary charges related to CMS ancillary service cost centers to determine Medicaid inpatient ancillary service cost. A calculation will be made to add back the cost of graduate medical education to the cost per diems and cost to charge ratios, if removed as a step-down adjustment on Worksheet B, Part I columns 22 and 23. The Medicaid days and charges are reconciled to MMIS paid claims data.

In addition to the cost calculated through application of cost per diems to routine service and cost to charge ratios to ancillary charges, a calculation of organ acquisition cost will be made for transplant approved hospitals eligible to certify public expenditures. The Worksheet D-6 or D-4 series with the inclusion of medical education cost as stated above for each organ will be used to determine organ acquisition cost. The total amount of Medicaid organ acquisition cost will be calculated as follows: Total organ acquisition cost per Worksheet D-6 or D-4 Part III Line 53 or 61 divided by Total usable

organs per Worksheet D-6 or D-4 Part 111 Line 54 or 62 times the number of Medicaid organs (fee for service) transplanted during the year.

Total Medicaid inpatient cost therefore will be the sum of routine service cost, ancillary service cost, graduate medical education cost, and organ acquisition cost. Any Medicaid payments other than the interim payments provided in this protocol and third party and client responsibility payments are deducted from the total Medicaid inpatient cost to determine the certifiable amount. The State will compare the final reconciliation to the interim reconciliation for each hospital. Any difference to the Medicaid cost will be recorded as an adjustment on the CMS 64 report.