

Medicare Hospital Simulation

Analyzing Variation in Quality Performance
and Cost

October 2019

Study Objectives

- Select quality measures that are clinically credible and actionable
- Determine the level of variation in quality performance across geographic regions
- Determine the level of variation in quality performance across hospitals and types of hospitals
- Create a best-practice quality benchmark
- Quantify the financial impact of quality performance in terms of impact on Medicare payments

Criteria for Selecting Quality Measures for Study

1. **Financial impact:** Should be substantial
2. **Outcomes Based:** Focus on outcomes, not process
3. **Comprehensive:** Address all the aspect of quality outcome, not just isolated examples. Quality improvement often requires hospital-wide behavior and culture changes
4. **Actionable:** Limited to the clinical circumstances where the quality outcome is potentially preventable; defines “at risk” population
5. **Risk Adjustment:** Availability of clinically credible patient risk categories for risk adjusting performance comparisons
 - Understandable patient categories, not mathematical formulas
 - Allows norms and expected values to be computed for each risk category

Criteria for Selecting Quality Measures for Study

6. **Proportional:** Able to determine the impact of the quality outcome on Medicare payments
7. **No Additional Administrative Burden:** Quality outcomes and risk adjustment methods should be based on current administrative data
8. **Scalable:** Applicable to the entire hospital case mix and to Medicaid, Veterans Administration and commercial insurance populations
 - Uniform and replicable set of quality outcome measures
9. **Proven Success:** Implemented for payment or performance reporting by state Medicaid or major commercial insurers
10. **Transparent:** Details of the quality outcomes and risk adjustment methods should be available for review and comment
 - No Black Boxes

Quality Outcome Performance Measures (QOPM)

- **Inpatient**

- Complication Rate
- 30-day Readmission Rate
- 30-day Post Discharge Return to ED Rate
- 30-day Post Discharge Admission to SNF or Rehab Facility Rate (Nov 19)

- **Emergency Department**

- Hospital Admission from ED Rate
- ED Observation Stay Rate
- ED Ancillary Utilization Rate (imaging, laboratory, pharmacy)

- **Outpatient Surgery Department**

- Hospital Admission or ED Visit for Surgical Complication Rate (Nov 19)

QOPMs methods used by states

Methodology	Payment	Reporting	Application
<i>Quality Measures</i>			
Potentially Preventable Complications (PPCs)	3	5	Identification of Complications for inpatients
Potentially Preventable Readmissions (PPRs)	7	12	Identification of Readmissions
<i>Risk Adjustment</i>			
All Patient Refined DRGs (APR DRGs)	30	5	Inpatient Risk Adjustment
Enhanced Ambulatory patient Groups (EAPGs)	16	3	Outpatient Risk Adjustment
Clinical Risk Groups (CRGs)	3	14	Population Risk Adjustment

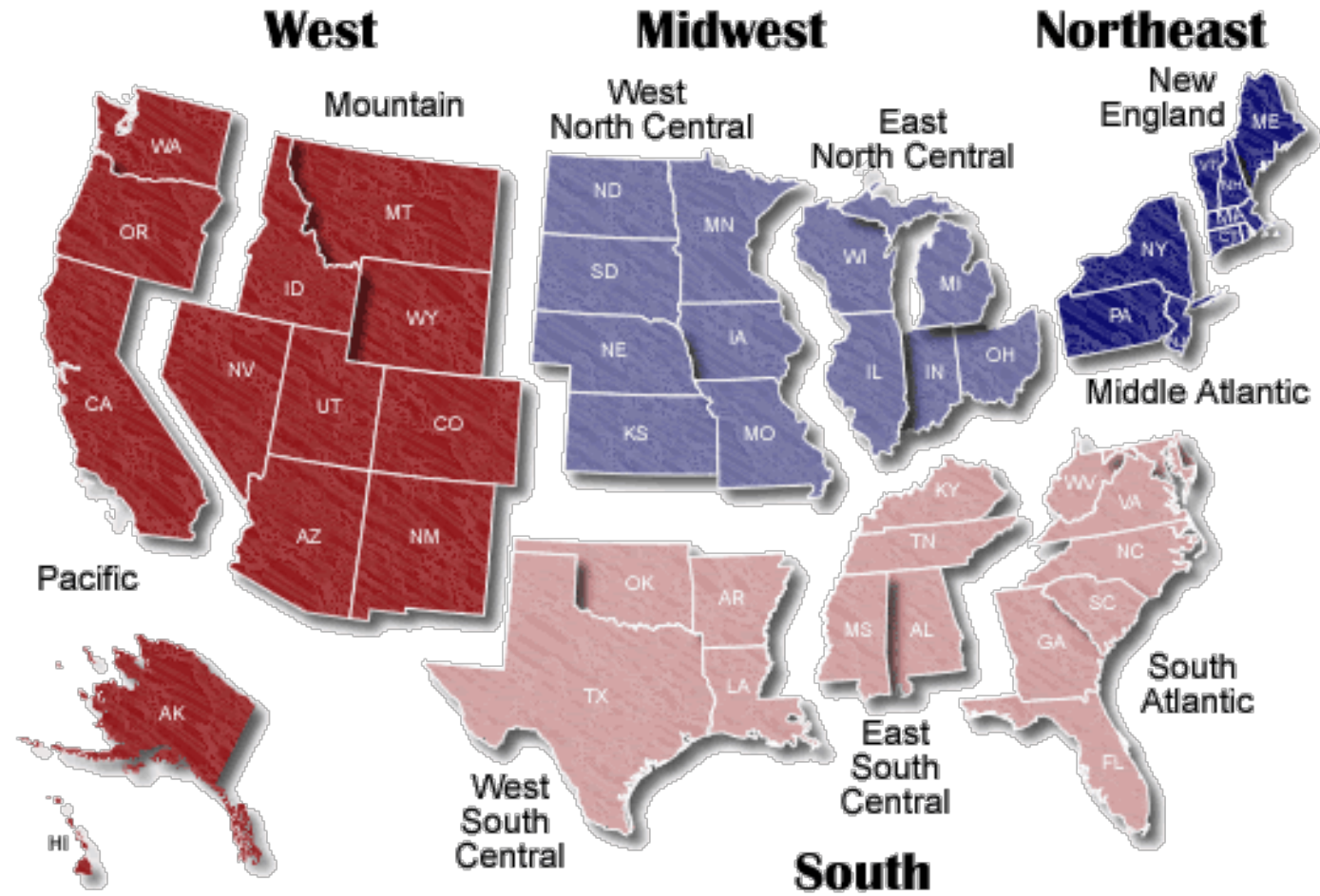
For each QOPM

- At risk admissions/visits are identified
- Average rate in each risk category in the national data is computed to create a national norm
- Top performing hospitals making up 40% of Medicare admissions/visits are identified and used to create a best-practice norm for each risk category
- For each hospital:
 - Actual value of the QOPM is computed (A)
 - Expected value of the QOPM (E) is computed using the national or best practice norms
 - Performance difference is computed (A-E)
 - Financial conversion factor based on allowed payments is used to convert the performance difference to a financial measure $\$(A-E)$

Data

- **Medicare FFS claims data for FY17 plus first month of FY18**
 - FY18 data only used to evaluate 30-day post discharge time period for FY17 discharges
- **Hospitals**
 - 3,279 IPPS hospitals
- **Volume**
 - 9,917,887 hospital admissions
 - 14,078,572 ED visits
- **Allowed Payments**
 - \$127.7B hospital admissions
 - \$9.7B ED visits

U.S. Census Regions



Map by the Indiana Business Research Center,
Kelley School of Business, Indiana University

%(A-E)/E by census region for national norm

	New England	Middle Atlantic	South Atlantic	E N Central	E S Central	W S Central	W N Central	Mount	Pacific
Hospitals	133	363	571	500	298	528	258	229	399
Admissions	554,167	1,323,505	2,228,747	1,594,708	764,251	1,115,872	751,341	526,122	1,059,174
PPC	6.16	5.46	-0.84	1.03	3.61	-4.13	-2.84	-7.23	-3.00
PPR	1.40	4.66	2.21	-0.66	4.26	1.89	-8.06	-12.87	-3.33
PPRED	2.25	-11.36	1.93	-1.24	4.68	4.66	-6.55	4.04	6.29
ED Admit	8.64	29.68	1.88	-1.81	-6.89	-6.54	-9.37	-23.62	-11.93
ED Obs	18.53	3.97	6.85	21.02	-11.23	-4.17	-1.71	2.02	-38.24
ED Anc	-5.27	3.35	3.64	1.19	-0.60	-1.82	-2.37	5.09	-8.17

%(A-E)/E by census region for best practice norm

	New England	Middle Atlantic	South Atlantic	E N Central	E S Central	W S Central	W N Central	Mount	Pacific	National
Hospitals	133	363	571	500	298	528	258	229	399	3329
Admissions	554,167	1,323,505	2,228,747	1,594,708	764,251	1,115,872	751,341	526,122	1,059,174	9,917,887
PPC	43.61	42.67	34.14	36.67	40.16	29.70	31.44	25.50	31.22	35.3
PPR	17.73	21.52	18.68	15.33	21.03	18.31	6.75	1.16	12.23	16.1
PPRED	23.87	7.38	23.48	19.64	26.81	26.79	13.21	26.04	28.77	21.1
ED Admit	67.02	99.35	56.62	50.94	43.14	43.68	39.32	17.42	35.39	53.7
ED Obs	157.68	126.04	132.29	163.09	92.99	108.35	113.69	121.80	34.26	117.4
ED Anc	17.24	27.91	28.27	25.25	23.02	21.52	20.84	30.07	13.66	23.8

\$ (A-E) by census region for best practice norm

	New England	Middle Atlantic	South Atlantic	E N Central	E S Central	W S Central	W N Central	Mount	Pacific	Total
Hospitals	133	363	571	500	298	528	258	229	399	3329
Admissions	554,167	1,323,505	2,228,747	1,594,708	764,251	1,115,872	751,341	526,122	1,059,174	9,917,887
PPC	109.2 m	265.3 m	356.4 m	281.3 m	144.6 m	161.3 m	115.9 m	65.8 m	157.0 m	1,656.9 m
PPR	85.5 m	241.3 m	360.7 m	218.7 m	140.8 m	179.3 m	44.8 m	5.3 m	112.7 m	1,389.1 m
PPRED	5.3 m	3.9 m	21.0 m	12.8 m	8.4 m	12.1 m	4.0 m	5.4 m	12.0 m	84.8 m
ED Admit	151.3 m	486.2 m	533.2 m	320.5 m	141.4 m	211.8 m	99.9 m	37.2 m	156.1 m	2,137.7 m
ED Obs	99.3 m	170.3 m	350.5 m	289.0 m	89.7 m	150.2 m	88.9 m	79.2 m	47.6 m	1,364.8 m
ED Anc	18.2 m	56.3 m	116.5 m	71.7 m	33.2 m	44.9 m	25.4 m	32.5 m	28.2 m	427.0 m
Total	468.9 m	1,223.4 m	1,738.3 m	1,193.9 m	558.1 m	759.6 m	378.9 m	225.4 m	513.7 m	7,060.3 m

Medicare Potential Savings

- $\%(A-E)/E$ is the percentage actual performance is above (+) or below (-) expected performance
- $\$(A-E)$ for an QOPM is an estimate of the potential savings (lower payments) that Medicare would incur if on average best practice performance was achieved nationally
- Potential savings are directly related to the amount of variation in the QOPM
 - A low level of variation in a QOPM would lead to a minimal estimate of potential savings
- Savings estimates are conservative
 - Limited to “at risk” population for which the QOPM is amenable to performance improvement
 - Based only on the excess QOPM volume with the baseline best practice performance considered acceptable

Overall Best Practice Results

	Inpatient Measures			Outpatient Measures		
	PPCs	PPRs	PPREDS	Adm ED	ED Obs	ED Anc
%(A-E)/E	35.3%	16.1%	21.1%	53.7%	117.4%	23.8%
\$(A-E)	1,656.9m	1,389.1m	84.8m	2,137.7m	1,364.8m	427.0m

- Overall %(A-E)/E is a measure of the overall level of performance improvement needed to achieve best practice nationally
- Some state quality payment reforms have already exceeded the 35.3% reduction for PPCs and 16.1% reduction for PPRs
- If hospitals on average were able to achieve best practice performance, Medicare FFS annual payments would be reduced by \$7 billion

%(A-E)/E by State Best Practice

State	Hospitals	Inpatient Measures			Outpatient Measures		
		PPCs	PPRs	PPREds	Adm ED	ED Obs	ED Anc
Alabama	84	47.2	19.8	15.5	56.9	51.9	14.5
Alaska	8	35.6	-7.9	54.2	-19.6	-36.8	-2.1
Arizona	63	30.9	2.9	27.2	9.0	244.0	39.3
Arkansas	45	28.8	20.4	28.0	41.8	157.0	19.5
California	297	28.8	18.1	25.8	47.1	39.0	14.8
Colorado	45	21.1	-6.4	30.4	8.7	93.5	23.8
Connecticut	30	51.9	18.9	24.9	62.7	148.1	13.9
Delaware	6	52.8	13.6	23.1	62.4	127.0	36.3
DC	7	92.2	32.2	29.8	58.9	89.9	-2.1
Florida	168	31.5	26.0	10.8	109.5	198.1	41.2
Georgia	101	43.7	18.3	31.6	33.8	88.4	22.2
Hawaii	12	41.1	-1.1	43.5	3.1	43.2	11.3
Idaho	14	17.7	-13.7	24.1	-0.8	-23.8	7.8
Illinois	125	42.0	20.9	11.8	67.4	236.7	31.9
Indiana	85	33.6	7.4	21.9	37.1	123.5	26.8
Iowa	34	43.7	5.3	16.0	39.4	85.2	8.3
Kansas	51	10.0	6.0	12.1	48.8	97.0	20.2

%(A-E)/E by State Best Practice

State	Hospitals	Inpatient Measures			Outpatient Measures		
		PPCs	PPRs	PPREs	Adm ED	ED Obs	ED Anc
Kentucky	64	37.7	23.3	34.1	32.5	91.3	28.2
Louisiana	90	34.2	20.5	41.1	34.5	105.3	6.8
Maine	17	37.0	-2.5	38.4	12.9	42.2	-4.7
Maryland	47	-0.9	13.9	17.9	53.9	230.5	34.6
Massachusetts	56	41.5	22.7	21.4	84.4	212.6	23.1
Michigan	94	35.2	17.8	21.1	61.3	149.9	21.0
Minnesota	50	33.7	1.5	13.5	25.8	99.2	20.1
Mississippi	60	41.4	23.9	31.8	37.2	122.3	19.7
Missouri	72	34.5	16.9	21.4	41.6	143.2	25.8
Montana	14	21.3	-11.0	9.1	11.6	87.4	10.3
Nebraska	23	27.9	-1.6	-7.6	51.7	96.9	26.1
Nevada	22	31.8	28.0	21.7	81.3	166.8	38.3
New Hampshire	13	43.0	9.4	23.3	48.1	159.0	24.1
New Jersey	64	37.6	21.5	5.8	91.4	199.2	32.7
New Mexico	30	39.9	5.9	34.5	4.3	57.4	25.4
New York	149	54.3	25.7	7.5	115.7	59.5	21.7
North Carolina	85	43.0	11.2	32.2	16.0	88.4	19.7

%(A-E)/E by State Best Practice

State	Hospitals	Inpatient Measures			Outpatient Measures		
		PPCs	PPRs	PPREdS	Adm ED	ED Obs	ED Anc
North Dakota	8	42.2	-3.6	7.2	33.9	136.7	17.7
Ohio	130	36.1	16.5	22.9	42.9	159.4	27.0
Oklahoma	84	33.2	14.5	36.9	21.7	67.9	12.8
Oregon	34	27.4	-5.3	38.2	7.6	47.1	5.1
Pennsylvania	150	31.7	16.5	8.4	85.4	161.6	31.5
Rhode Island	11	53.0	19.3	14.9	78.7	83.0	23.2
South Carolina	54	33.5	14.2	36.3	29.0	69.1	18.5
South Dakota	20	24.7	-5.6	-6.2	49.6	138.5	24.1
Tennessee	90	36.2	18.8	27.4	44.8	110.4	27.8
Texas	309	28.1	18.3	21.2	51.4	110.6	27.9
Utah	31	7.1	-14.3	22.6	4.2	-45.5	35.2
Vermont	6	20.3	6.8	36.6	30.1	21.1	-1.1
Virginia	74	33.7	13.9	31.9	30.2	66.7	20.6
Washington	48	41.9	-1.7	33.7	7.1	14.7	14.9
West Virginia	29	44.8	20.3	36.7	34.7	171.0	33.1
Wisconsin	66	32.1	3.7	26.7	23.9	96.5	12.4
Wyoming	10	9.7	-3.5	30.7	16.6	150.4	29.0

CBSA Variation Within States Best Practice Norm $\%(A-E)/E$

Example: Selected CBSAs in Florida

	Hospitals	Admissions	Adm ED
National	3329	9,943,646	53.7
Florida	168	761,456	109.5
Miami-Miami Beach-Kendall, FL	19	56,044	152.72
Tampa-St. Petersburg-Clearwater, FL	30	127,778	131.51
Orlando-Kissimmee-Sanford, FL	17	104,580	105.36
Jacksonville, FL	11	59,910	106.01
Cape Coral-Fort Myers, FL	6	47,922	81.56
Crestview-Fort Walton Beach-Destin, FL	6	19,235	62.35

State QOPM Performance (%(A-E)/E) Correlations

QOPM	QOPM	Pearson Correlation
PPRs	PPCs	0.5933
	PPRED	-0.2452
	ED Adm	0.7422
PPCs	PPRED	-0.2520
ED Adm	ED Obs	0.1024
	ED Ancillary	0.1028
ED Obs	ED Ancillary	0.6596

Interpretation: A positive correlation means the performance of a state on two QOPMs is likely to be similar. A negative correlation means the performance of a state on two QOPM is likely to be opposite.

Examples: States with poor performance on PPCs are likely to have poor performance on PPRs (0.5929). States with good performance on PPRs are likely to have poor performance on PPREDs (-0.2437).

%(A-E)/E by Type of Hospital National Norms

		Hosps	Hosp Adm	PPC	PPR	PPRED	Adm ED	ED Obs	ED Anc
IME	Top 10%	333	1,939,596	12.0	5.5	-3.2	17.0	14.6	-1.1
	All Other	2,996	8,004,050	-3.5	-1.3	0.7	-2.8	-2.4	0.2
DSH	Top 20%	668	1,813,022	5.8	9.1	4.7	4.4	-10.3	-7.2
	Middle 60%	1,996	6,789,676	-0.4	-1.4	0.3	-1.8	1.2	1.1
	Bottom 20%	665	1,340,948	-6.0	-5.1	-8.1	3.5	7.9	3.8
Location	Large Urban	1,353	4,500,715	1.1	2.9	-3.7	11.4	8.6	3.9
	Other Urban	953	3,164,581	-2.1	-3.0	2.6	-4.6	-6.8	-0.7
	Rural	1,023	2,278,350	0.8	-1.4	3.6	-12.7	-5.0	-5.0
Size	Top 10%	333	3,087,770	7.9	1.4	-4.5	13.6	16.1	6.8
	All Other	2,996	6,855,876	-4.5	-0.6	2.0	-4.1%	-4.7	-1.9

%(A-E)/E by Type of Hospital National Norms

- Large high IME, DSH hospitals have higher than expected PPC rates
- Large urban high IME hospital have higher than expected admission through the ED and high rates of use of ED observation
- High DSH hospitals have lower than expected use of ED observation and ED ancillary services but higher than expected admissions through the ED
- Rural hospitals generally perform consistent with expectations

QOPM Performance by Type of Hospital

Objective: To identify QOPM performance differences that are not explained by the clinical condition of the patient.

- QOPM risk adjustment controls for the clinical condition of the patient and not for socioeconomic factors or hospital attributes (teaching status)
- Risk adjustment controlled for factors such socioeconomic status would hide performance problems associated with the care given to some socioeconomic groups, implicitly making poor performance (higher readmission rates) acceptable for some socioeconomic groups. Broad community-wide actions may be needed to address such problems
- Hospital payment adjustments based on QOPM performance may (like DSH in IPPs) include additional payments for some socioeconomic factors, but that is separate from QOPM performance problem identification

Summary

- Some state Medicaid programs have already achieved performance improvements for PPCs and PPRs greater than those in the best practice norm
- Great variation in performance across states and CBSAs
 - Generally, western states perform better than eastern states
 - In particular, the rate of admissions through the ED and the use of observation are highly variable
- Large high IME, DSH hospitals have higher than expected PPC rates, admission through the ED and use of ED observation

Key Finding

If hospitals on average were able to achieve best practice performance, Medicare FFS annual payments could be reduced by \$7 billion.

Summary (cont.)

- Rural hospitals generally perform consistent with expectations
- The analysis is being expanded to include QOPMs for:
 - Post discharge facility admission
 - Hospital admission or ED visit for surgical complications following outpatient surgery
- The QOPMs could form the basis for creating a single, uniform hospital payment adjustment for quality for all Federal programs (Medicare, Medicaid, VA, Medicare Advantage)

Key Finding

If hospitals on average were able to achieve best practice performance, Medicare FFS annual payments could be reduced by \$7 billion.

Additional Background and Tables

Cost and Quality

- Total Cost = Unit Cost x Volume
- IPPS (DRGs) and OPPS (APCs) controlled unit cost but not the volume of units delivered
- Quality problems generally require a greater volume of services in order to “fix” the quality failure
- Quality and volume of services are inextricable interrelated

$$\text{Total Cost} = \text{Unit Cost} \times \text{Volume(Quality)}$$

QOPM Details

Inpatient QOPMs	Identification of QOPM	Identification of “At Risk” Population	Risk Categories	Financial Conversion
Complications	One or more PPCs during admission	Potentially preventable logic in PPCs	Admission APR DRG	Marginal PPC cost increase expressed in payment dollars
Readmissions	PPR within 30 days of hospital discharge	Potentially preventable logic in PPRs	Discharge APR DRG	Average payment for an admission
Return ED Visits	PPRED within 30 days of hospital discharge	Modification of potentially preventable logic in PPRs	Discharge APR DRG	Average payment for an ED visit
Post Discharge Facility Admission (November 19)	Admission to a post acute facility within 30 days of hospital discharge	Modification of APR DRGs to identify discharges with stable pattern of post discharge resource use	Discharge APR DRG and CRG	Marginal payment increase for a SNF or rehab stay vs discharge to home with/without home health services

QOPM Details

Outpatient QOPMs	Identification of QOPM	Identification of “At Risk” Population	Risk Adjustment	Financial Conversion
Hospital admissions from ED	Low severity admission through ED	Low severity medical encounters in the ED	Admission APR DRG	Average payment for low severity admissions less average payment for ED observation and ancillaries
ED Observation	8 or more hours of observation in ED	Low severity medical encounters in the ED	Admission APR DRG	Average payment for 8+ hours of ED observation
ED ancillary utilization	Provision of ancillary services in ED	Low severity medical encounters in the ED not admitted	Admission APR DRG	Average payment for ED ancillaries adjusted for mix of ancillaries
Hospital admission or ED visits for complications of outpatient surgery (November 19)	Admission or ED visit within 30 days after outpatient surgery presenting with surgical PPCs	Outpatient surgery EAPGs	EAPGs	Average payment for an ED visit or hospital admission

Steps for comparing QOPM performance

For each QOPM

- Identify “at risk” patients for each QOPM. QOPMs are limited to patients for whom the quality outcome is potentially preventable.
- Determine the average rate in each risk category using national data to create a national norm.
- Determine the subset of best practice hospitals that make up 40% of the “at risk” patient volume. For each QOPM determine the average rate in each risk category using best practice hospitals to create a best practice norm.

For each hospital

- Compute the expected value (E) for each QOPM. The sum of the product of the number of “at risk” admissions/visits in the hospital times the norm value in each risk category summed over all risk categories.

Steps for comparing QOPM performance

For each hospital:

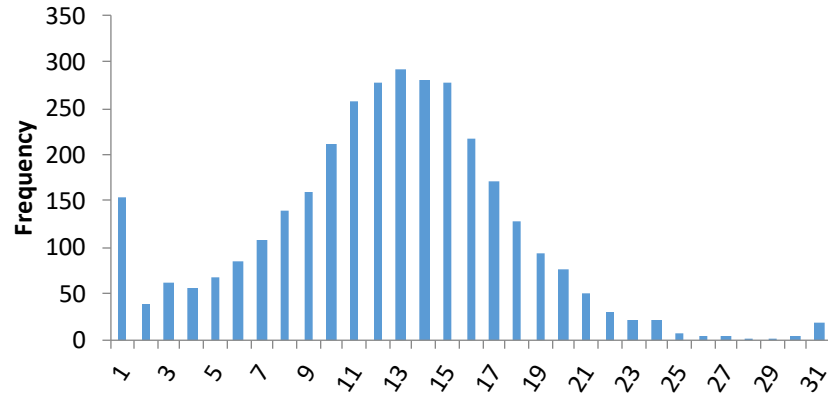
- Compute the actual value (A) for each QOPM.
 - The sum of the number of QOPMs in the hospital in each risk category for the “at risk” admissions/visits summed over all risk categories

For each QOPM:

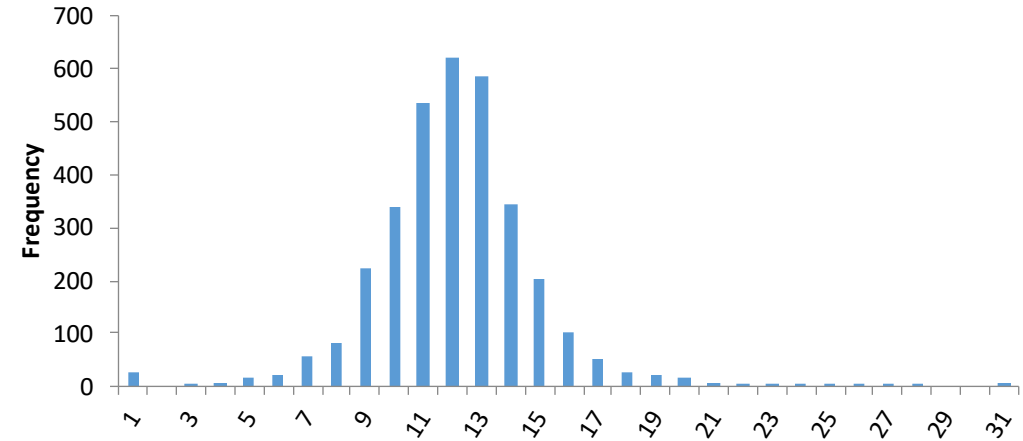
- Compare the hospital actual value (A) to its expected value (E) by computing the difference between the actual and expected value
 - $(A-E)$
- Determine a financial conversion factor based on Medicare allowed payment amount to convert the $(A-E)$ for each QOPM to a financial amount that is proportional to the allowed payment amount
 - $\$(A-E)$

Distribution of $\%(A-E)/E$ for Best Practice by Hospitals

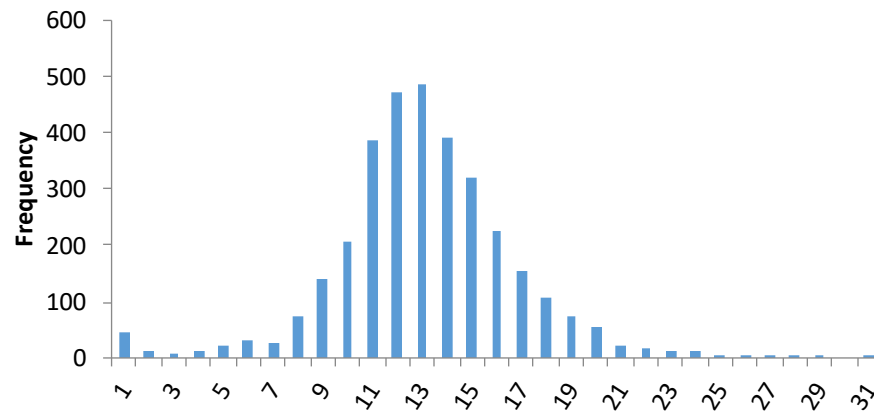
PPC



PPR

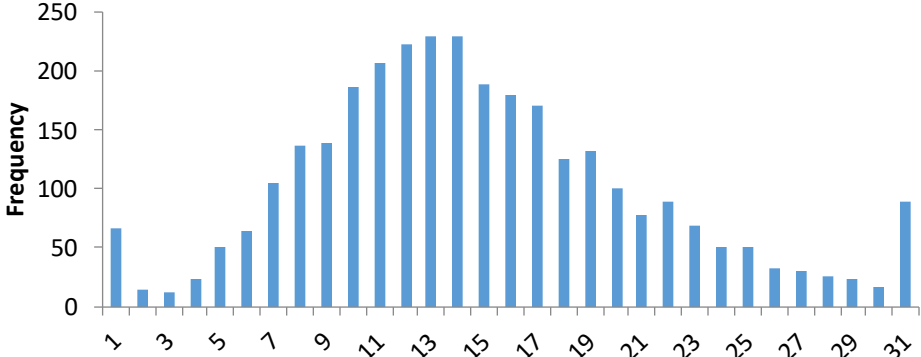


PPRED

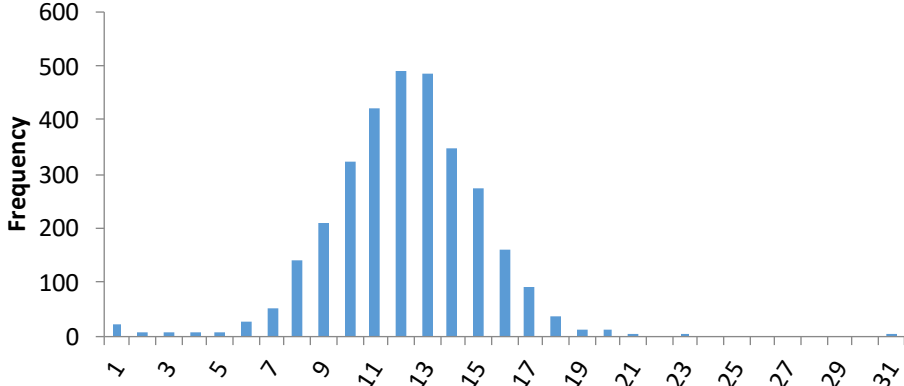


Distribution of (A-E)/E for Best Practice by Hospitals

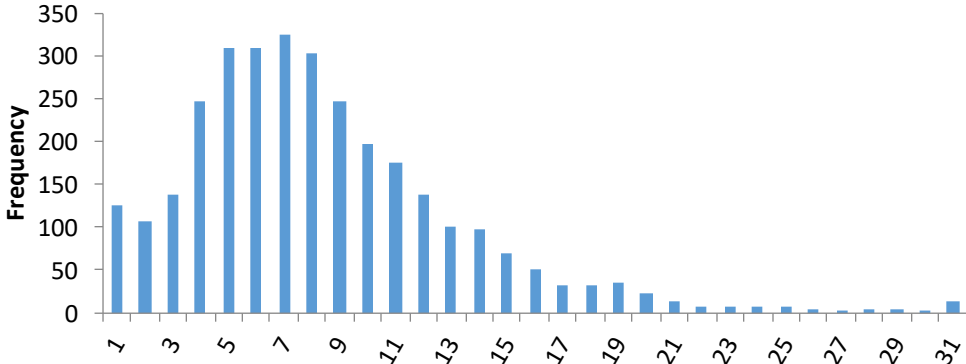
Admission from ED



Ancillary



Observation



\$(A-E) by State Best Practice

State	Hospitals	Inpatient Measures			Outpatient Measures		
		PPCs	PPRs	PPREDS	Adm ED	ED Obs	ED Anc
Alabama	84	42.47 m	32.72 m	1.22 m	44.98 m	12.72 m	5.17 m
Alaska	8	2.49 m	-0.93 m	0.29 m	-1.26 m	-0.87 m	-0.07 m
Arizona	63	25.27 m	4.09 m	1.72 m	6.57 m	48.26 m	13.96 m
Arkansas	45	16.77 m	21.32 m	1.38 m	21.00 m	22.82 m	4.37 m
California	297	103.18 m	120.36 m	7.82 m	149.33 m	38.39 m	21.59 m
Colorado	45	11.54 m	-6.17 m	1.31 m	3.67 m	12.89 m	5.52 m
Connecticut	30	29.52 m	20.98 m	1.25 m	33.35 m	21.53 m	3.48 m
Delaware	6	10.89 m	5.09 m	0.40 m	11.30 m	7.20 m	3.03 m
DC	7	19.96 m	9.65 m	0.42 m	7.30 m	3.17 m	-0.12 m
Florida	168	110.50 m	170.52 m	3.39 m	321.86 m	148.20 m	48.51 m
Georgia	101	57.21 m	44.04 m	3.51 m	41.47 m	31.64 m	12.00 m
Hawaii	12	4.22 m	-0.21 m	0.35 m	0.33 m	1.41 m	0.58 m
Idaho	14	2.97 m	-4.33 m	0.34 m	-0.11 m	-1.22 m	0.61 m
Illinois	125	84.30 m	79.48 m	2.08 m	111.92 m	100.41 m	22.49 m
Indiana	85	38.96 m	16.18 m	2.17 m	35.45 m	35.38 m	12.10 m
Iowa	34	19.99 m	4.68 m	0.65 m	14.32 m	9.95 m	1.45 m
Kansas	51	4.95 m	5.38 m	0.50 m	16.79 m	10.41 m	3.51 m

\$(A-E) by State Best Practice

State	Hospitals	Inpatient Measures			Outpatient Measures		
		PPCs	PPRs	PPREDS	Adm ED	ED Obs	ED Anc
Kentucky	64	33.08 m	38.55 m	2.60 m	26.62 m	22.19 m	10.16 m
Louisiana	90	26.30 m	28.47 m	2.61 m	26.50 m	22.43 m	2.22 m
Maine	17	8.35 m	-1.05 m	0.71 m	2.64 m	2.79 m	-0.49 m
Maryland	47	-1.00 m	26.12 m	1.56 m	52.70 m	59.37 m	14.32 m
Massachusetts	56	52.00 m	54.86 m	2.44 m	92.25 m	61.81 m	11.59 m
Michigan	94	64.05 m	60.21 m	3.25 m	90.14 m	64.24 m	13.52 m
Minnesota	50	30.79 m	2.34 m	0.96 m	15.16 m	18.92 m	5.84 m
Mississippi	60	24.45 m	27.55 m	1.75 m	24.07 m	22.17 m	5.54 m
Missouri	72	39.82 m	36.00 m	2.10 m	37.38 m	36.59 m	10.57 m
Montana	14	3.22 m	-2.98 m	0.11 m	1.18 m	2.90 m	0.54 m
Nebraska	23	9.18 m	-0.90 m	-0.20 m	8.90 m	5.56 m	2.33 m
Nevada	22	12.02 m	19.14 m	0.69 m	23.20 m	12.96 m	4.58 m
New Hampshire	13	10.58 m	4.13 m	0.47 m	10.08 m	9.33 m	2.36 m
New Jersey	64	56.47 m	58.17 m	0.74 m	117.15 m	64.93 m	16.91 m
New Mexico	30	8.48 m	2.37 m	0.62 m	0.87 m	3.80 m	2.77 m
New York	149	142.40 m	119.44 m	1.64 m	231.53 m	35.17 m	17.41 m
North Carolina	85	68.84 m	33.55 m	4.34 m	24.64 m	41.28 m	14.38 m

\$(A-E) by State Best Practice

State	Hospitals	Inpatient Measures			Outpatient Measures		
		PPCs	PPRs	PPREdS	Adm ED	ED Obs	ED Anc
North Dakota	8	6.82 m	-0.99 m	0.09 m	2.77 m	3.43 m	0.71 m
Ohio	130	70.12 m	57.75 m	3.63 m	68.47 m	70.80 m	19.78 m
Oklahoma	84	23.92 m	18.78 m	2.17 m	14.38 m	13.85 m	3.84 m
Oregon	34	11.31 m	-3.82 m	1.22 m	2.56 m	5.19 m	0.84 m
Pennsylvania	150	66.46 m	63.72 m	1.50 m	137.50 m	70.25 m	21.98 m
Rhode Island	11	7.21 m	5.52 m	0.20 m	10.39 m	3.23 m	1.34 m
South Carolina	54	27.14 m	21.44 m	2.50 m	22.75 m	16.36 m	6.91 m
South Dakota	20	4.38 m	-1.74 m	-0.09 m	4.56 m	4.03 m	1.04 m
Tennessee	90	44.57 m	41.98 m	2.79 m	45.72 m	32.64 m	12.36 m
Texas	309	94.35 m	110.70 m	5.90 m	149.97 m	91.08 m	34.48 m
Utah	31	1.76 m	-6.37 m	0.45 m	0.77 m	-3.10 m	3.57 m
Vermont	6	1.56 m	1.06 m	0.26 m	2.63 m	0.64 m	-0.05 m
Virginia	74	45.21 m	35.25 m	3.66 m	38.63 m	25.86 m	12.00 m
Washington	48	35.84 m	-2.70 m	2.31 m	5.17 m	3.52 m	5.30 m
West Virginia	29	17.66 m	15.00 m	1.22 m	12.58 m	17.38 m	5.45 m
Wisconsin	66	23.84 m	5.04 m	1.64 m	14.51 m	18.21 m	3.78 m
Wyoming	10	0.57 m	-0.40 m	0.16 m	1.03 m	2.74 m	0.93 m

%(A-E)/E by Type of Hospital Best Practice Norms

		Hosps	Hosp Adm	PPC	PPR	PPRED	Adm ED	ED Obs	ED Anc
IME	Top 10	333	1,939,596	51.5	22.5	17.3	79.8	149.2	22.4
	All Other	2,996	8,004,050	30.6	14.6	22.0	49.4	112.3	24.0
DSH	Top 20	668	1,813,022	43.1	26.7	26.9	60.5	95.0	14.8
	Middle 60	1,996	6,789,676	34.7	14.4	21.5	50.9	120.0	25.1
	Bottom 20	665	1,340,948	27.2	10.2	11.4	59.1	134.6	28.5
Location	Large Urban	1,353	4,500,715	36.8	19.4	16.7	71.2	136.0	28.5
	Other Urban	953	3,164,581	32.4	12.6	24.3	46.6	102.6	22.9
	Rural	1,023	2,278,350	36.4	14.5	25.5	34.3	106.5	17.6
Size	Top 10	333	3,087,770	46.0	17.8	15.7	74.6	152.3	32.2
	All Other	2,996	6,855,876	29.3	15.4	23.6	47.5	107.3	21.5

\$(A-E) by Type of Hospital Best Practice Norms

		Hosps	Hosp Adm	PPC	PPR	PPRED	Adm ED	ED Obs	ED Anc
IME	Top 10	333	1,939,596	548.4 m	376.0 m	13.2 m	454.9 m	240.9 m	54.0 m
	All Other	2,996	8,004,050	1,119.7 m	1,021.0 m	71.2 m	1,703.3 m	1,121.3 m	372.8 m
DSH	Top 20	668	1,813,022	375.6 m	420.2 m	19.9 m	429.9 m	197.6 m	46.0 m
	Middle 60	1,996	6,789,676	1,125.5 m	862.5 m	58.5 m	1,408.5 m	959.3 m	311.1 m
	Bottom 20	665	1,340,948	167.0 m	114.2 m	6.0 m	319.7 m	205.4 m	69.8 m
Location	Large Urban	1,353	4,500,715	800.7 m	756.2 m	30.1 m	1,209.4 m	648.2 m	209.6 m
	Other Urban	953	3,164,581	492.8 m	351.5 m	31.0 m	582.2 m	376.7 m	130.1 m
	Rural	1,023	2,278,350	374.5 m	289.2 m	23.3 m	366.6 m	337.3 m	87.1 m
Size	Top 10	333	3,087,770	782.2 m	479.0 m	19.2 m	689.9 m	398.1 m	123.4 m
	All Other	2,996	6,855,876	885.8 m	918.0 m	65.2 m	1,468.3 m	964.2 m	303.5 m