

# Success of Bundled Payment Initiative in Hip Fracture Patients in Comprehensive Care for Joint Replacement Model



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## BACKGROUND

- In response to the rise in spending in the traditional fee for service model, the Centers for Medicare & Medicaid Services have implemented several bundled payment programs for hip arthroplasty patients
- With the inclusion of hip fracture patients as part of these programs, analysis of this patient cohort is warranted as these patients are higher-risk than elective arthroplasty patients.

## OBJECTIVE

Analyze the effectiveness of a BPCI initiative at a large urban medical center for hip fracture patients included in the bundled payment program with respect to improving patient outcomes and improving cost

## METHODS

- 99 consecutive patients discharged with the DRG codes 469-470 performed for hip fractures from one academic medical center between January 2015 and December 2016
- BPCI initiative based upon an established program for total joint arthroplasty patients in the BPCI program was applied to all hip fracture arthroplasty patients beginning in January 2016
  - three main goals: 1) improved care coordination, 2) clinical pathway implementation and standardization of care, 3) encouragement of home discharge and minimization of post-acute care facility usage
- Patient length of stay, location of discharge, need for ICU/SDU care, and readmission within 90 days were recorded
- Cost data for the 90-day episodes of care was obtained from Medicare claims

## Length of Stay, discharge disposition and readmission rate for the pre-initiative and post-initiative cohorts.

	Pre-Initiative (n=44)	Post-Initiative (n=55)	p-value
<b>Length of Stay (days) mean ± SD</b>	6.3 ± 3.2	5.8 ± 2.9	0.416
<b>Discharge Disposition n (%)</b>			
<i>Home</i>	7 (15.9%)	16 (29.1%)	0.281
<i>SNF</i>	28 (63.6%)	31 (56.4%)	
<i>Acute Rehab</i>	9 (20.5%)	8 (14.5%)	
<b>Readmission Rate n (%)</b>	9 (20.5%)	12 (21.8%)	0.869

## 90-day episode of care costs including post-discharge facility costs and readmission costs. <sup>a</sup> includes home health aid, skilled nursing facility, and acute rehab costs

	Pre-Initiative (n=44)	Post-Initiative (n=55)	p-value
<b>90-day bundle of care costs (mean ± SD)</b>	\$52,600 ± \$22,013	\$44,475 ± \$22,066	0.071
<b>Total post-discharge costs <sup>a</sup> (mean ± SD)</b>	\$25,453 ± \$14,929	\$20,591 ± \$16,281	0.129
<i>HHA</i>	\$6,018 ± \$1,138	\$4,657 ± \$1,575	0.069
<i>SNF</i>	\$26,394 ± \$11,885	\$26,858 ± \$16,693	0.903
<i>Acute Rehab</i>	\$38,308 ± \$12,929	\$28,170 ± \$5,041	0.053
<b>Readmission Costs (mean ± SD)</b>	\$10,943 ± \$8,964	\$12,680 ± \$9,986	0.685

## RESULTS

- 99 hip fracture patients underwent arthroplasty procedures and were included in this study (44 patients received care prior to the initiative and 55 patients participated in the initiative)
- There was no decrease in mean length of stay between the two cohorts
- Percentage of patients discharged home nearly doubled with the introduction of the BPCI initiative (15.9% vs. 29.1%)
- There was a 15.5% reduction in total 90-day episode of care cost (\$52,600 vs. \$44,475) upon introduction of the initiative

## Demographics of Pre-initiative and Post-initiative cohorts

	Pre-Initiative (n=44)	Post-Initiative (n=55)	p-value
<b>Age (years) (mean ± SD)</b>	82.2 ± 8.0	81.3 ± 8.8	0.620
<b>Ethnicity n (%)</b>			0.449
<i>White</i>	40 (90.9%)	47 (85.5%)	
<i>Hispanic</i>	0 (0.0%)	3 (5.5%)	
<i>Black</i>	1 (2.3%)	1 (1.8%)	
<i>Asian</i>	0 (0.0%)	2 (3.6%)	
<i>Pacific Islander</i>	0 (0.0%)	0 (0.0%)	
<i>Other</i>	2 (4.5%)	1 (1.8%)	
<i>Unknown</i>	1 (2.3%)	1 (1.8%)	
<b>Sex n (%)</b>			0.253
<i>Female</i>	32 (72.7%)	34 (61.8%)	
<i>Male</i>	12 (27.4%)	21 (38.2%)	
<b>BMI (mean ± SD)</b>	23.2 ± 3.6	24.6 ± 4.7	0.115

## CONCLUSIONS

- Unlike elective joint replacements, there is little chance to optimize orthopaedic trauma patients presenting with hip fractures before surgery
- With the introduction of these patient into the CJR model, initiatives to provide resource-conscious yet high-quality care for these patients is imperative
- This study shows the success of one such program aimed at care coordination and minimizing post-acute facility care both respect to improved patient outcomes and substantial cost reduction