

March 2024

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Recommended Citation

Dougherty, Jacob M. BS; Maqsood, Hannan A. MBBS; Fan, Zhaohui MD MPH; Wang, Stewart C. MD PhD; Hemmila, Mark R. MD; and Sangji, Naveen F. MD MPH, "The Long-Term Economic Implications of Burn Injury for Burn Survivors" (2024). *Medical Student Research Symposium*. 340.
https://digitalcommons.wayne.edu/som_srs/340

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The Long-Term Economic Implications of Burn Injury for Burn Survivors

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ABSTRACT

Introduction: The long-term economic implications of burn injury on patients and payors has not been well described. Burn injury can be costly due to prolonged intensive care, wound care, rehabilitation, psychological care, and reconstructive surgery that may be required well after the initial injury. We investigated index and post-acute payor and out-of-pocket (OOP) costs related to burn injury for in-patient care at 30 days, and up to 36 months post-discharge to understand the long-term economic implications for burn survivors.

Methods: An observational cohort study was conducted using a commercial claims database from IBM Watson Health® MarketScan. Patients age ≤ 65 years with an ICD9/10 diagnosis code of burn injury between 2011 and 2016 were identified and tracked for a three-year period following the injury. This was used to determine the payor and OOP costs for burn care during the initial treatment and the three-year period following discharge through 2019.

Results: We identified 11,815 patients who were admitted for in-patient care for a burn injury between 2011 to 2016. The inflation-adjusted index out-patient evaluation or emergency room costs ranged from \$400 to \$942 during the study period. For the index admission, length of stay (LOS) ranged from 5.4 days to 6.2 days, 30-day complication rates ranged from 15.6% to 21.7%, and 30-day readmission rates ranged from 7.2% to 9.6% within this timeframe. The payor costs for burn care ranged from \$2,057 to \$3,944 at 30 days, and \$2,615 to \$5,166 at 36-months post discharge, for each year from 2011 to 2016. The OOP costs ranged from \$105 to \$217 at 30 days, and \$149 to \$263 at 36-months post discharge, respectively, for each year from 2011 to 2016 (Table 1).

Conclusions: Burn injury creates significant financial burdens associated with care in the following years which are highly impactful to both patients and providers. Further investigation of the long-term economic implications related to burn injury is an area of interest in burn care.

Table 1: Total Costs, Readmission Rates, and Complication Rates from 2011-2016

Year	Sample Size (n)	Index OP/ER Total	Index Length of Stay (days), mean	Complication Rates	Readmission Rates	30-day OOP	30-day Payor	36-month OOP	36-month Payor
2011	3331	\$400	5.4	15.6%	7.2%	\$105	\$2,475	\$169	\$3,576
2012	3477	\$443	5.4	15.9%	7.6%	\$107	\$2,057	\$149	\$2,615
2013	1972	\$645	5.4	15.7%	9.1%	\$152	\$2,314	\$199	\$2,996
2014	1399	\$696	5.7	17.7%	9.2%	\$149	\$2,127	\$189	\$2,644
2015	743	\$942	5.7	19.7%	9.6%	\$217	\$2,982	\$263	\$3,511
2016	893	\$737	6.2	21.7%	7.4%	\$161	\$3,944	\$248	\$5,166

***OP= Out-patient; ER= Emergency Room; LOS= Length of Stay; OOP= Out-of-pocket**