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Abstract

Introduction: Recent studies have shown that most pediatric burns can be successfully treated in the outpatient setting. New innovations, such as mobile health technology and advanced burn dressings can help facilitate outpatient burn care. We hypothesized that there may be a shift in admitting and charge trends over recent years reflecting a change in the delivery of care of non-severe burns.

Methods: The Pediatric Health Information System (PHIS) Database was queried for non-severe burns < 10% total burn surface area (TBSA) with the ICD-10 code 31.0 that were treated from 2016 to 2019. Performance indicators included admission type (Emergency Department (ED), observation, and Inpatient) and hospital charges which were compared across year groups. Percent admission was calculated by combining inpatient and observation encounters divided by total encounters. Only hospitals that had data for all four years with greater than 15 admissions were included. All means, medians, standard deviations and standard error of the mean were calculated in Microsoft Excel. A student's t-test or ANOVA test was used for statistical analysis as appropriate. A p-value of <0.05 was determined to be significant.

Results: Twenty-one hospitals with a total of 9,894 encounters were included in this study. The percentage of non-severe burns managed in the inpatient setting demonstrated a statistically significant decrease between 2016 (45.0% $\pm$ 8.8) and 2019 (18.7% $\pm$ 5.33) ($p < 0.05$.) Although percent ED management increased from 2016 to 2019, it did not reach significance. Charges evaluated between the different years demonstrated significant changes in ED and Observation charges. A significant increase in mean charge was observed between ED charges in 2016 (\$1,541 $\pm$ 197) and both 2018 (\$2,132 $\pm$ 199) and 2019 (\$2,236 $\pm$ 172) ($p < 0.05$.) Conversely, compared to 2016 observation charges (\$10,450 $\pm$ 1,982), the mean observation charges for 2018 were \$7,999 $\pm$ 1,008 and \$8,596 $\pm$ 1006 in 2019 which were both significantly decreased ($p < 0.001$). There was no significant difference in observation charges between 2016 and 2017. There was also not a significant difference in charges for inpatient care over the study period.

Conclusion: Over the course of four years, non-severe burn admissions decreased, with a concomitant rise in ED only care and observation care. Interestingly, over the same time

period, ED charges increased while observation charges fell. These differences allude to evolving changes in management approach to non-severe burns and underscores the overall nationwide shift in healthcare economics to provision of high-quality outpatient care.

Learning Objectives

- Define current guidelines for management of non-severe burns.
- Discuss observed changes in admission practices over time.
- Describe changes in patient charges over time.

References:

Warner PM, Coffee TL, Yowler CJ. Outpatient Burn Management. Surgical Clin North Am. 2014. PMID: 25085094 DOI: 10.1016/j.suc.2014.05.009