Research Objective

The objective of this study was to compare costs and resource utilization of adult patients experiencing post-admission dehydration (PAD) to those who do not experience PAD.

Methods

**Database:** Premier Data – The largest hospital-based database in the United States providing detailed resource utilization and cost data.

**Study Time-frame:** Calendar year 2011

**Selection Criteria:** All adult inpatient discharges excluding those with suspected dehydration present on admission (ICD-9-CM codes for dehydration: 276.0, 276.1, 276.5X). See sample selection flow-chart in Figure 1.

**Methods**

- PAD has a potential to add significant burden to hospital costs and resources.
- Adopting strategies aimed at avoiding PAD may help in reducing hospital cost and resource burden and may improve patient outcomes.

**All patients:**

- Post-matching 86,398 pairs were identified.

**Economic outcomes:**

- Mean total cost were significantly higher for the PAD group compared to NPAD group ($33,945 vs. $22,380, p<0.0001).
- Mean costs associated with room & board, central supply, surgery, pharmacy and other miscellaneous departments were also significantly higher for PAD group (all p<0.0001).

**Clinical outcomes:**

- Compared to NPAD group, PAD group had higher mean LOS days (12.9 vs. 8.2, p<0.001).
- PAD group also had a higher incidence of CAUTI (0.6% vs. 0.5%) and in-hospital mortality (8.6% vs. 7.8%) (both p<0.05).

**Subgroup analysis:**

- 50.2% of PAD patients were surgical patients.
- The results for sub-group analysis were also significant for total costs (Medical patients: $22,065 vs. 15,700; Surgical patients: $45,728 vs. $32,091) and LOS days (Medical patients: 11.4 vs. 8.3; Surgical patients: 14.3 vs. 11.4) (all p<0.05).

**Statistical Analysis:** PAD and no PAD(NPAD) groups were matched on propensity score adjusting for demographics (age, gender, race, medical, elective patients), patient severity (APR-DRG severity scores) and hospital characteristics (geographic location, bed-size, teaching and urban hospital). Costs (total and departmental), days of stay in hospital (LOS) and incidence of mortality and Catheter-Associated Urinary Tract Infection (CAUTI) [ICD-9-CM code:996.64] were compared between groups using t-test for continuous variables and chi-squared test for categorical variable.

**Subgroup analysis:** Sub-groups of medical and surgical population were also matched and analyzed separately.

Results

**All patients:**

- Post-matching 86,398 pairs were identified.

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Conclusion

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