

Seasonal variations in hospitalizations for burn injuries

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Objectives

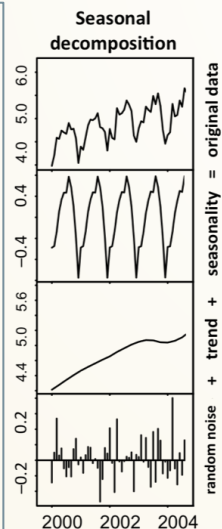
Seasonal variation in traumatic injuries is a known phenomenon, but published data from large scale studies on burn hospitalization rates is sparse.

Aim: to describe trends and seasonality in burns admissions using largest available administrative U.S. database with respect to percentage of total body surface area (TBSA) involved.

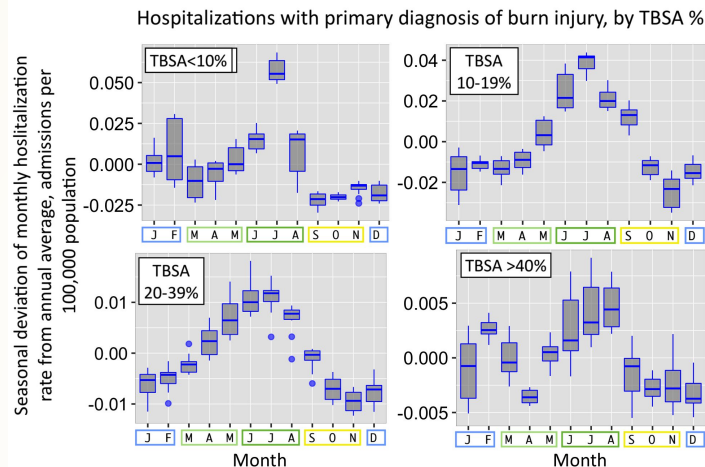
Methods

Study population: National Inpatient Sample (2000-2015) → all primary admissions for burn injuries (n= 490,247).

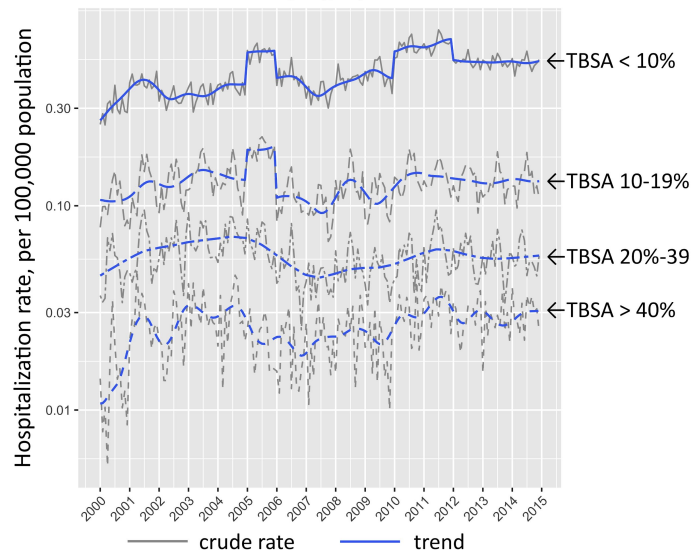
Monthly hospitalization rates → seasonal trend decomposition → subgroup analysis by TBSA.



Results



Hospitalizations with primary diagnosis of burn injury, by TBSA %



- ❑ The highest hospitalization rate: summer (July peak)
- ❑ Seasonal difference was significant for burns with TBSA 10-39%
- ❑ Seasonal amplitude accounts for 28% of total burns hospitalization rates
- ❑ Increase of annual trends (2000-2015) was significance for burns with TBSA <10% and ≥40%, while admission rate for burns with TBSA 10-39% remain stable
- ❑ Patients, admitted during summer months, tend to be younger males with TBSA >10%, shorter length of hospitalization and lower in-hospital mortality, compared to other seasons (all $p < 0.001$)

Conclusions

Observed seasonal variation in burns incidence *could be related to summer peak in outdoors grilling and fire activities*, although the mechanism of injury can not be captured by administrative databases. *Summer peak: resources planning; attention to preventive measures while working with open fire*