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Introduction

Older patients are a particularly vulnerable population with respect to burn injuries.

The American Burn Association has invested resources in improving burn care and burn prevention within this age group, recognizing the difficulties in both the identification and subsequent modification of risk factors.

The National Electronic Injury Surveillance System (NEISS) is maintained by the Consumer Product Safety Commission to surveil for injury trends and is populated with data from a representative group of approximately 100 emergency departments in the United States.

The purpose of this work was to evaluate the NEISS as a tool to target prevention resources and surveil results in the elderly population.

Methods

For the years 2008 – 2017, the NEISS was queried for patients aged 55 years and older with one of the following diagnoses

- scald
- thermal
- electrical
- unspecified burn injury

Each injury was classified by

- body part(s) burned
- causative product
- gender
- age group of patient
 - 55-64
 - 65-74
 - 75-84
 - 85 and older

The ten most commonly burned sites as well as the ten most common causative products were determined for each gender and age group and in aggregate. Weighted estimates from the NEISS data were utilized to calculate injury numbers across the population.

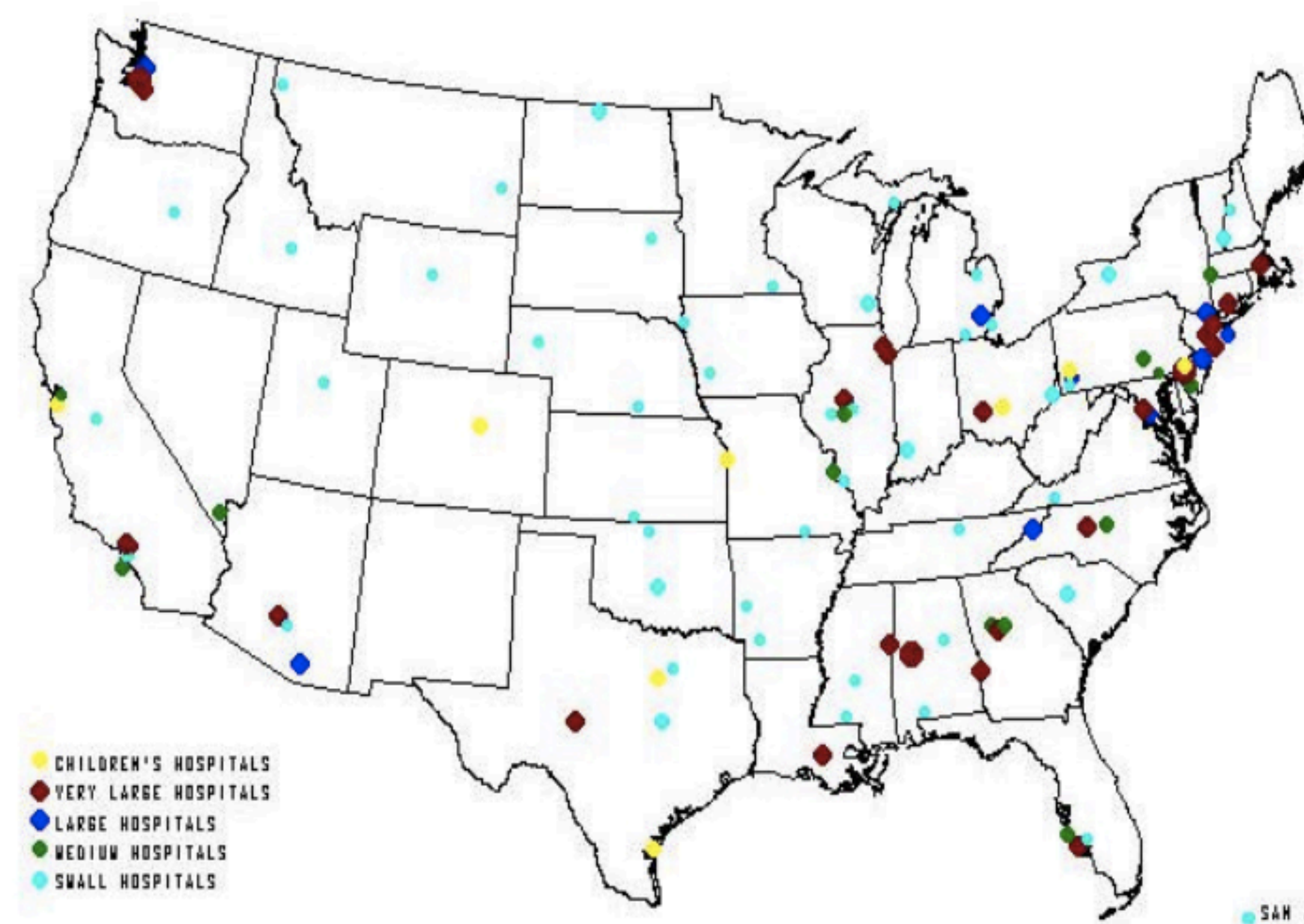


Figure 1. Locations and categories of Emergency Departments from which NEISS data is derived

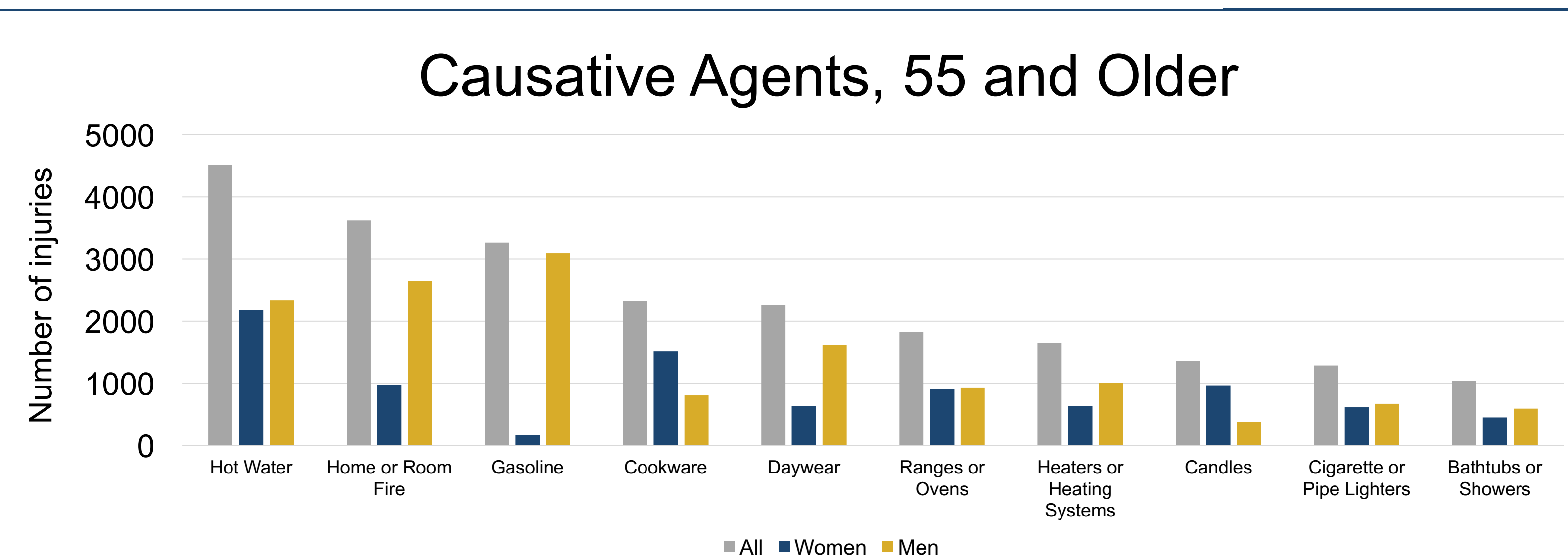


Figure 2. Estimates of burn injuries from the ten most common causative products in total and by gender for all patients aged 55 and older.

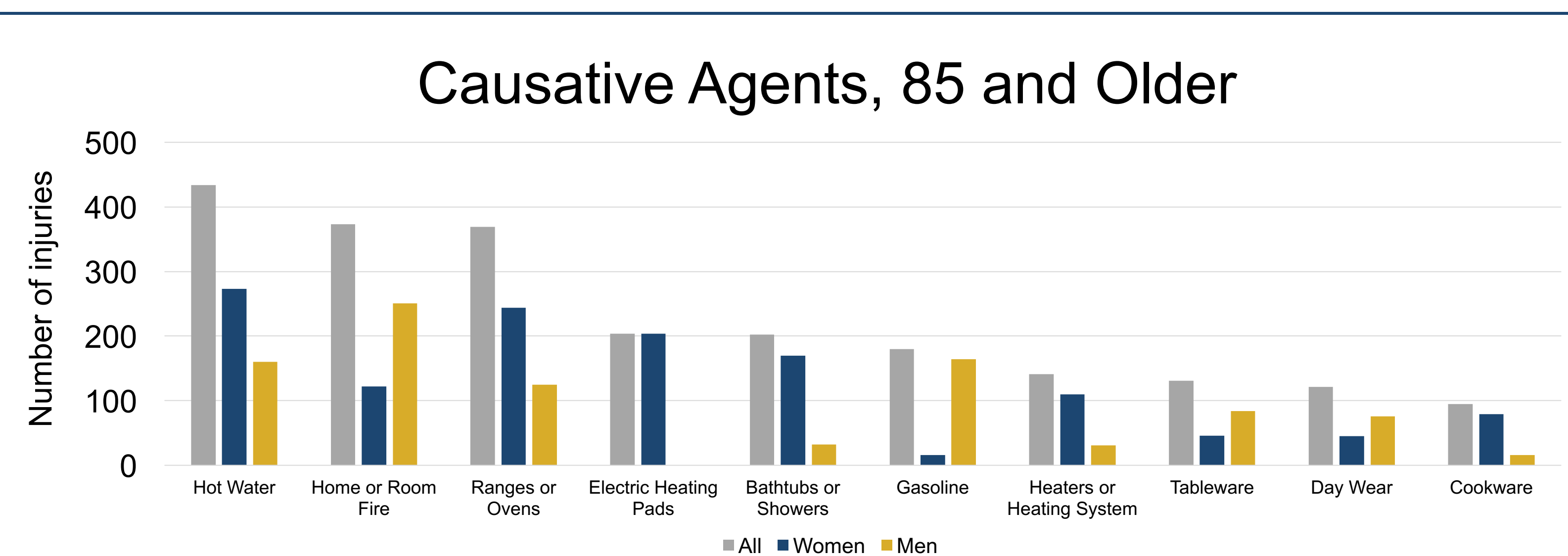


Figure 3. Estimates of burn injuries from the ten most common causative products in total and by gender for all patients aged 85 and older.

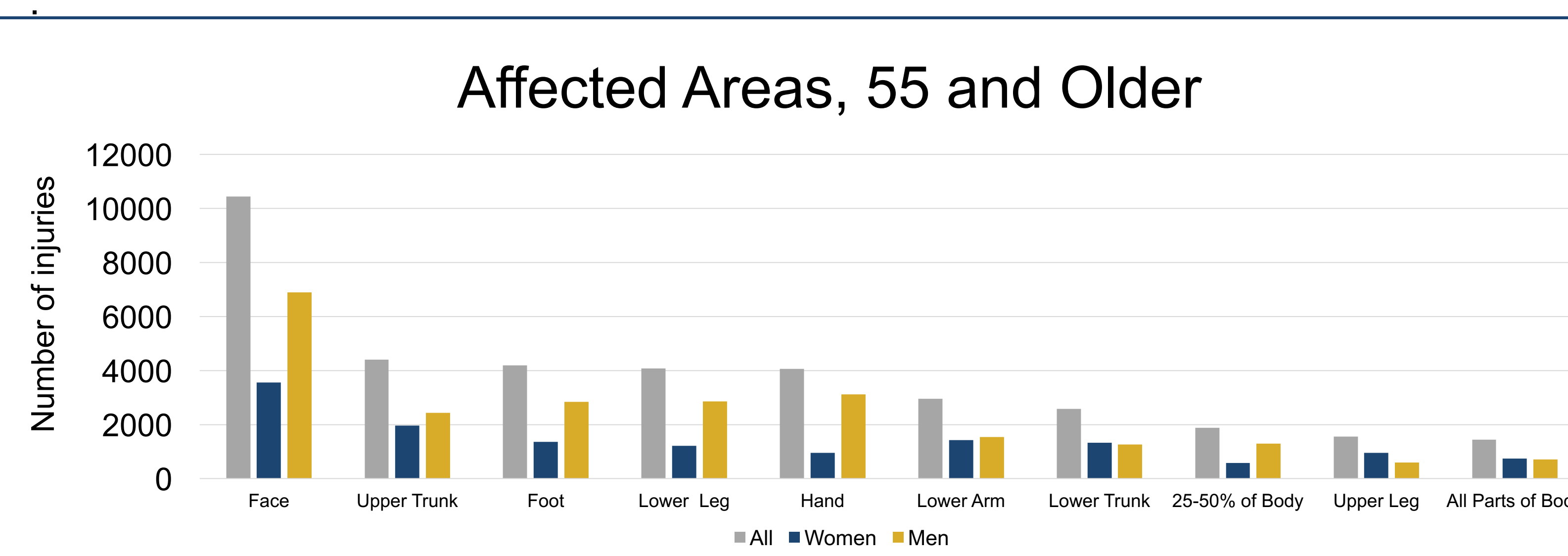


Figure 4. Estimates of burn injury locations in total and by gender for all patients aged 55 and older.

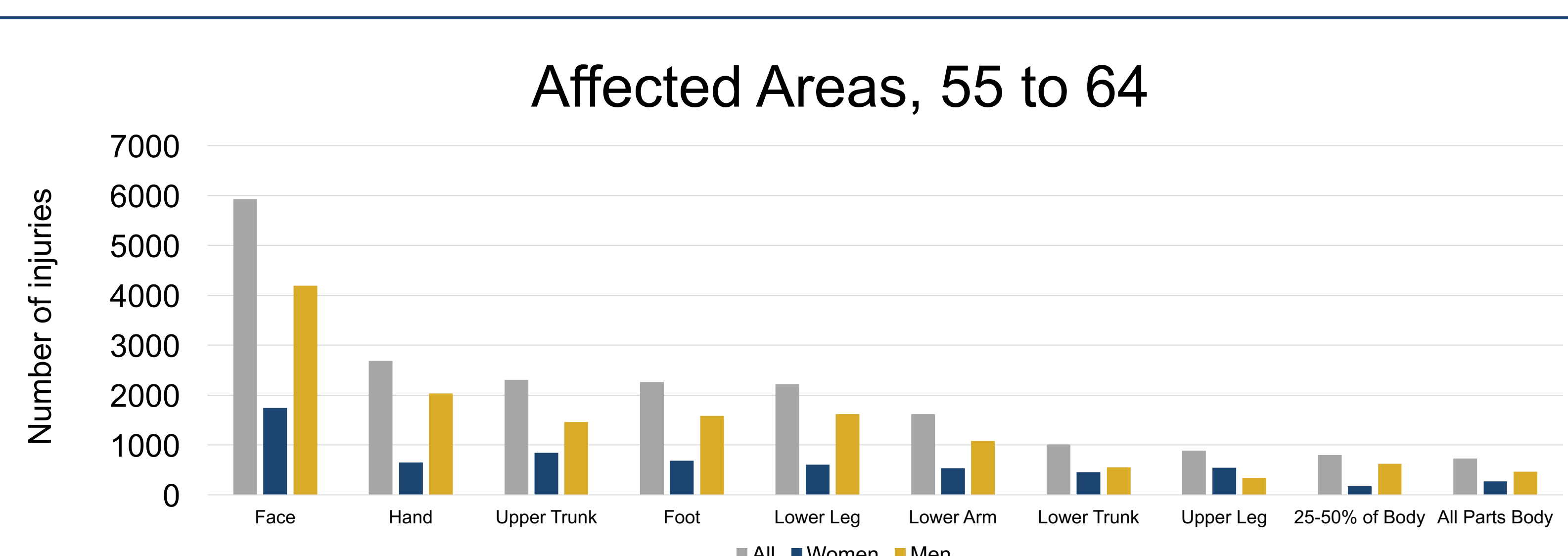


Figure 5. Estimates of burn injury locations in total and by gender for all patients aged 55 to 64.

Results

The most common etiology of burn injuries for all patients aged 55 and older was hot water.

Men were most commonly injured by gasoline, a product which was did not rank in the top ten for women in any age group.

Cookware was the second most common cause among women aged 55 and older and was the sixth most common cause among men.

For women, the combination of cookware and ranges/ovens was among the top two products associated with burn injury within each age group.

The most commonly injured body part for all patients was the face. This held across most age and gender groupings except for women age 75 to 84 (upper trunk), and women 85 and older (foot).

Men were more likely to injure their hands than women.

Conclusion

The most common cause of burn injuries in older adults is hot water, and the most common body part affected is the face.

Women are more likely to be injured by cookware and ranges/ovens.

Men are more likely to be injured secondary to gasoline and are more likely to injure their hands.

Applicability

NEISS data could be useful in the development of targeted prevention campaigns, such as focused education about the dangers of hot liquids, cooking, and accelerants.

Similarly, tracking such data over time would be useful to monitor efficacy of targeted prevention efforts.