TRENDS IN INJURIES FROM FIRE, HEAT, AND HOT SUBSTANCES, 1990–2017

Burns and other injuries caused by exposure to fire, heat, and hot substances can cause severe disability and death, even when health care services are available. Among the world’s regions, substantial variation exists in both the number of cases of these injuries and the rates of death resulting from them.

The burn injuries incidence landscape in 2017 showed **great variability** among regions, as did the change over time.

Age-standardized* incidence per 100,000 of injuries from fire, heat, and hot substances in 2017

Between 1990 and 2017, **nine regions had significant decreases** in age-standardized incidence rates and **three regions experienced significant increases**.

Percentage change in age-standardized incidence per 100,000 of injuries from fire, heat, and hot substances from 1990 to 2017

**The change in the remaining nine regions was not statistically significant.**

The regions with the highest age-standardized incidence rates in 2017:

- **EASTERN EUROPE**: 303 cases per 100,000
- **CENTRAL ASIA**: 298
- **SOUTHERN LATIN AMERICA**: 226

Globally, the age-standardized incidence of injuries from fire, heat, and hot substances in 2017 was **119 per 100,000** in 2017, representing **8,991,468 cases**.

*Age-standardization is a statistical technique for comparing populations with different age structures, in which the characteristics of the populations are statistically transformed to match those of a reference population.

**DECREASES**
- EASTERN EUROPE
- EASTERN SUB-SAHARAN AFRICA
- NORTH AFRICA AND MIDDLE EAST
- CENTRAL ASIA
- CENTRAL LATIN AMERICA
- SOUTHEAST ASIA
- SOUTHERN SUB-SAHARAN AFRICA
- TROPICAL LATIN AMERICA
- HIGH-INCOME NORTH AMERICA

**INCREASES**
- EAST ASIA
- SOUTHERN LATIN AMERICA
- HIGH-INCOME ASIA PACIFIC
These findings highlight the importance of injury prevention methods that focus on safety in consumer products, residential dwellings, and workplaces, as well as the need for universal access to care services (especially burn treatment centers) that can reduce disability and avert deaths from these injuries.

In 2017, the average person suffering from a fire, heat, and hot substances injury lost 3.2% of their full health as a result. The leading cause of disability for victims was burns affecting less than 20% of the body’s surface area (excluding lower airway burns).

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<tr>
<th>Mortality-to-incidence ratios for 1990 and 2017 by GBD region</th>
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<td><img src="mortality_to_incidence.png" alt="" /></td>
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Burns covering <20% of the body made up the bulk of injuries from exposure to fire, heat, and hot substances.

 Boils and cold injuries
 Burns covering <20% of the body
 Burns ≥20%‡
 Amputation of fingers (excluding thumb)
 Open wound(s)
 Fracture of patella, tibia or fibula, or ankle
 Amputation of thumb
 Amputation of toe(s)
 Muscle and tendon injuries
 Effect of different environmental factors
 Other

† Burns affecting <20% of the body’s surface area (excluding lower airway burns)
‡ Burns affecting ≥20% of the body’s surface area or ≥10% of the body’s surface area if the head/neck or hands/wrist are involved (excluding lower airway burns)