Using SAS ® to Create Code for Current Triage Systems during Chemical Incidents
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Abstract
Chemical incidents involving irritant chemicals such as chlorine poses a significant threat to life and requires rapid assessment. This paper used data from the first outcomes-level study (211 NIH) involving an actual mass casualty chemical incident to create code for four triage systems Chemical, Biological, Radiological and Nuclear (CBRN), Sort, Assess, Lifesaving Intervention, Treatment and/or Transport (SALT), Simple Treatment and Rapid Transport (START) and the Emergency Severity Index (ESI). Data used for this paper from six datasets collected by the project team from a 60-ton railroad chlorine leak that occurred in Graniteville, South Carolina in 2005 include patient demographics, exposure estimates, symptoms, outcome categories, and physiological measures. Data collected for approximately 900 victims of a chlorine leak were merged to generate a research dataset. SAS © 9.2 used to create code from logic that mimics the triage decision tree yielding classifications for each system.

Introduction

Disaster happens in the world each day.
Disaster can be categorized to natural and unnatural
Mass casualties can overwhelm healthcare capabilities, jeopardizing the lives of victims and healthcare providers alike.
No consensus currently exists on standardized indicators for specific aspects of disaster triage response.

Purpose

The purpose of this paper is using SAS to create code for four current triage systems (CBRN, SALT, START and ESI) in a mass casualty chemical incident.

Background

Six datasets were used from a large chlorine leak in Graniteville (SC).
Six datasets were merged to generate a research dataset useful for further analysis.
SAS was used to create code for four Current Triage Systems (CBRN, SALT, START and ESI).
New variables were created (Figure 1).
Decision logic was developed for Four Triage Systems (Figure 2-5).

Results

Six percent (n=58) was categorized as red. Also, six percent of the sample did not classify to any category. (Table: START)
Twenty-seven of the observations (4.52%) were categorized as level 1 (Table: START).
Thirty of the observations (4.75%) were classified as red (Table: CBRN).
Seventy-eight of the observations (12.56%) was categorized as red (Table: CBRN).

Conclusion

In this paper, SAS used logic to create code for four current triage systems (CBRN, SALT, START and ESI) in a mass casualty chemical incident. The frequency tables easily were created. SAS is the most powerful statistical software to use in research.