EMS Syndromic Surveillance Strategies in Disasters: On the Ground Focused Analysis

Alex G Garza MD, MPH,[1,2] Kelly Deal REMT-P, Tina Wells,[3] Stephen Dean PhD [3]
Washington Hospital Center,[1] Georgetown University School of Medicine,[2] Emergency Medical Services Authority, Tulsa, Oklahoma [3]

Introduction

- EMS is capable of performing core syndromic surveillance and recommended as an additional source of surveillance[1]
- Emergency Medical Systems (EMS) have shown some benefit in syndromic surveillance for bio-events such as influenza[2]
- We describe how an adjustment identified significant public health threats during a natural disaster

Methods & Materials

- Core surveillance complaints normally monitored were evaluated during time surrounding the disaster including:
  - Respiratory
  - Gastrointestinal
  - Neurological
  - Death and Serious Illness
- Carbon monoxide (CO) poisoning was specifically added for surveillance during the disaster

Results

- Core surveillance measures were elevated without reaching threshold levels
- CO poisoning alerted on the third day of the disaster
- Geospecific location indicators identified clusters of CO poisoning calls in predominantly Spanish speaking communities
- Public Health officials release media alerts in Spanish addressing generator use and CO poisoning
- Significant decrease in CO poisoning calls after initiation of alerts

Discussion

- EMS dispatch systems can be a useful tool for public health surveillance
- EMS dispatch data cover full spectrums of patient complaints and be adjusted according to conditions on the ground
- EMS dispatch data can collect data over wide ranging geography

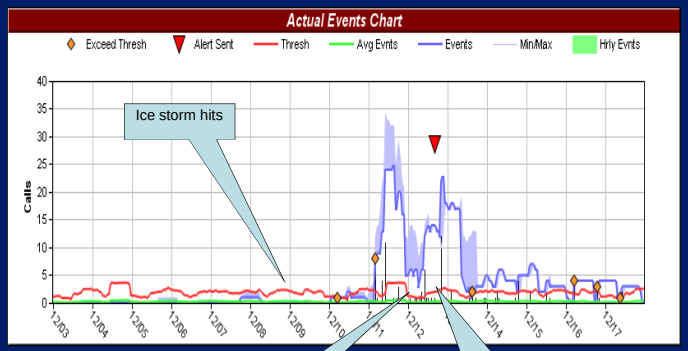
Conclusion

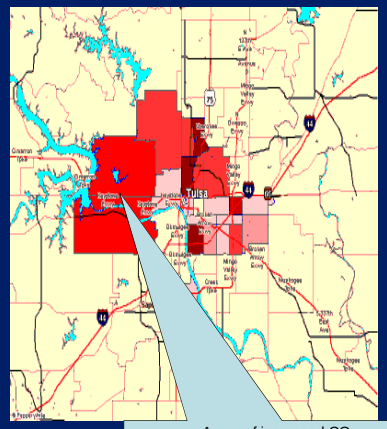
- EMS dispatch data was successfully adjusted for surveillance of CO poisonings during a natural disaster
- As a result of EMS dispatch geospecific location indicators, specific focused Public Health Alerts were developed
- CO poisoning calls decreased after initiation of alerts

Methods & Materials

- Retrospective, observational, case study of syndromic and adjusted monitoring specific to disaster characteristics during an ices storm in Tulsa, OK, December 2007
- Urban/Suburban all Advanced Life Support EMS system using EMS Surveillance system FirstWatch®

CO Surveillance and Geospecific Graphing





Bibliography

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2. Grenko J, Mostashari F, Fine A, Layton M. Clinical Evaluation of the EMS Ambulance Dispatch Based Syndromic Surveillance System, NYC. J of Urban Health. 80 (2):Si50-56.