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Enhancing TX SyS by integrating EMS and Poison Data for Opioid Overdose Surveillance

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Objective

To improve Texas Syndromic Surveillance by integrating data from the Texas Poison Center and Emergency Medical Services for opioid overdose surveillance.

Introduction

In recent years, the number of deaths from illicit and prescription opioids has increased significantly resulting in a national and local public health crisis. According to the Texas Center for Health Statistics, there were 1340 opioid related deaths in 2015 [1]. In 2005, by comparison, there were 913 opioid related deaths. Syndromic surveillance can be used to monitor overdose trends in near real-time and provide much needed information to public health officials. Texas Syndromic Surveillance (TxS2) is the statewide syndromic surveillance system hosted by the Texas Department of State Health Services (DSHS). To enhance the capabilities of TxS2 and to better understand the opioid epidemic, DSHS is integrating both Texas Poison Center (TPC) data and Emergency Medical Services (EMS) data into the system.

Much of the data collected at public health organizations can be several years old by the time it is released for public use. As a result, there have been major efforts to integrate more real-time data sources for a variety of surveillance needs and during emergency response activities.

Methods

Guided by the Oregon Public Health Division's successful integration of poison data into Oregon ESSENCE, DSHS has followed a similar path [2]. DSHS already receives TPC data from the Commission on State Emergency Communication (CSEC), hence copying and routing that data into TxS2 requires a Memorandum of Understanding (MOU) with CSEC, which is charged with administering the implementation of the Texas Poison Control Network.

EMS records are currently received by the DSHS Office of Injury Prevention (OIP) via file upload and extracted from web services as an XML file. Regional and Local Health Operations, the division where the syndromic surveillance program is located, and OIP, are both sections within DSHS. Therefore, it is not necessary to have a formal MOU in place. Both parties would operate under the rules and regulations that are established for data under the Community Health Improvement Division.

CSEC and EMS will push data extracts to a DSHS SFTP folder location for polling by Rhapsody in Amazon Web Services. The message data will be extracted and transformed into the ESSENCE database format. Data are received at least once every 24 hours.

Results

TxS2 will now include TPC and EMS data, giving system users the ability to analyze and overlay real-time data for opioid overdose surveillance in one application. The integration of these data sources in TxS2 can be used for both routine surveillance and for unexpected public health events. This effort has led to discussions on how different sections within DSHS can collaborate by using syndromic surveillance data, and has generated interest in incorporating additional data streams into TxS2 in the future.

Conclusions

While this venture is still a work in progress, it is anticipated that adding TPC and EMS data to TxS2 will be beneficial in surveilling not just opioid overdoses but other conditions and illnesses, as well as capturing disaster related injuries.

References

1. Texas Health Data, Center for Health Statistics [Internet]. Austin (TX): Department of State Health Services. Available from: http://healthdata.dshs.texas.gov/Opioids/Deaths

2. Laing R, Powell M. 2017. Integrating Poison Center Data into Oregon ESSENCE using a Low-Cost Solution. *Online J Public Health Inform.* 9(1), e042. https://doi.org/10.5210/ojphi.v9i1.7620