Austin Boil Water Notice, October 2018

Background

In October 2018, flooding rains ravaged central Texas. On the morning of October 22, 2018 debris and increased turbidity in the rivers led Austin Water Utility to release an unprecedented boil water notice for over 800,000 customers within the City of Austin and surrounding counties. Utilizing syndromic surveillance systems, Austin Public Health (APH) monitored the changes in gastrointestinal illness (GI) within the Austin Metropolitan area over the course of the advisory and two weeks after the advisory was lifted.

Methods

APH utilized the syndromic surveillance system RODS (Realtime Outbreak and Disease Surveillance) to monitor changes in emergency department visits at 13 local hospitals. APH requested the keyword "boil" to be used for emergency department patients who stated they drank water or were concerned about drinking water during their initial triage starting on October 22, 2018. Syndromic surveillance data for gastrointestinal illness were reviewed and daily percentages of emergency department visits were tracked and reported. Daily reports were distributed via email and WebEOC to emergency management, regional partners, the Capital Area Public Health and Medical Preparedness Coalition, and the Texas Department of State Health Services.

Results

The number of emergency department visits for gastrointestinal illness ranged from 191 to 286, or 14.4% to 16.8% of all visits. The normal range for gastrointestinal illness visits prior to the incident was 14% to 17%. October 29, the day after the end of the boil notice, experienced the highest number of visits due to gastrointestinal illness (286). A total of 55 visits were linked to the keyword "boil" within chief complaints. The keyword picked up visits that included complaints of diarrhea, abdominal pain, nausea, vomiting, and burns. October 24, 2 days into the boil notice, experienced the highest number of visits with the keyword "boil" (15).

Conclusions

Although the boil water notice was not issued due to pathogens, public health and water management officials wanted to ensure that any lingering pathogens missed due to turbidity were not affecting the population. Overall, daily reports indicated no change in gastrointestinal illness visits to local emergency departments. Data was reviewed, as well as GI complaints and revealed no changes to overall population health due to the boil water notice. The daily reports provided data and situational awareness for emergency management and informed decisions and emergency communication.

Looking to the Future

During the incident, the number "15" was released to the media in relation to the number of ED visits containing the word "boil". Increased explanation of what the data means and that all the data is self-reported would decrease media sensationalism, as well as further education for leadership.

The use of TXS2 will allow for more robust analysis within TXS2 itself, reducing the time it takes to analyze data and share it with partners, especially in an evolving situation.

The word "boil" as a keyword required data cleaning to remove common use of boil related to boils on the body.

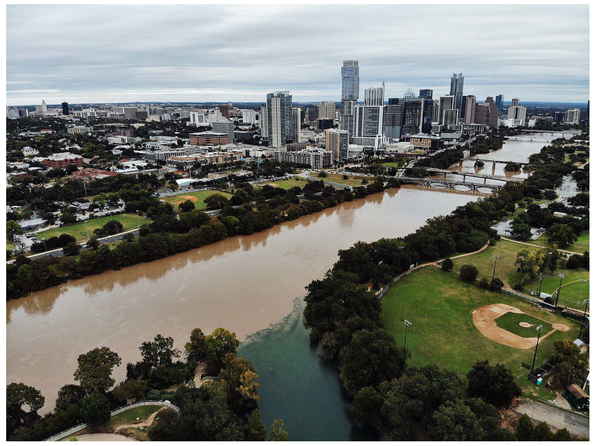
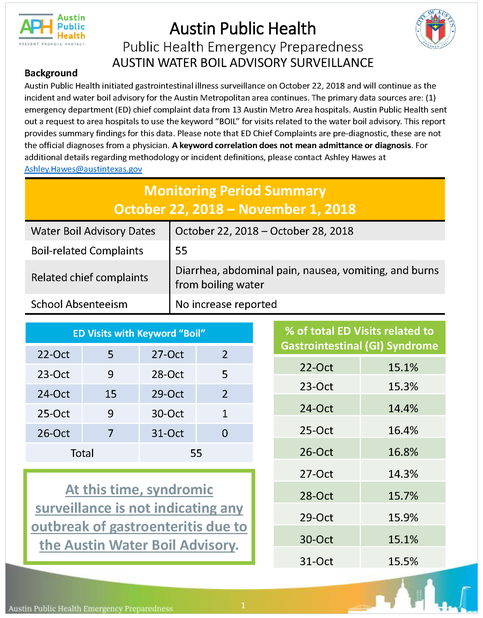


Figure 1: Photograph from Austin American Statesman showing turbidity level in Lady Bird Lake in comparison to Barton Springs entering the lake.



Austin Public Health
Public Health Emergency Preparedness
AUSTIN WATER BOIL ADVISORY SURVEILLANCE

Background

Austin Public Health initiated gastrointestinal illness surveillance on October 22, 2018 and will continue as the incident and water boil advisory for the Austin Metropolitan area continues. The primary data sources are: (1) emergency department (ED) chief complaint data from 13 Austin Metro Area hospitals. Austin Public Health sent out a request to area hospitals to use the keyword "BOIL" for visits related to the water boil advisory. This report provides summary findings for this data. Please note that ED Chief Complaints are pre-diagnostic, these are not the official diagnoses from a physician. **A keyword correlation does not mean admittance or diagnosis**. For additional details regarding methodology or incident definitions, please contact Ashley Hawes at Ashley.Hawes@austintexas.gov

Monitoring Period Summary
October 22, 2018 – November 1, 2018

Water Boil Advisory Dates	October 22, 2018 – October 28, 2018
Boil-related Complaints	55
Related chief complaints	Diarrhea, abdominal pain, nausea, vomiting, and burns from boiling water
School Absenteeism	No increase reported

ED Visits with Keyword "Boil"			
22-Oct	5	27-Oct	2
23-Oct	9	28-Oct	5
24-Oct	15	29-Oct	2
25-Oct	9	30-Oct	1
26-Oct	7	31-Oct	0
Total		55	

% of total ED Visits related to Gastrointestinal (GI) Syndrome	
22-Oct	15.1%
23-Oct	15.3%
24-Oct	14.4%
25-Oct	16.4%
26-Oct	16.8%
27-Oct	14.3%
28-Oct	15.7%
29-Oct	15.9%
30-Oct	15.1%
31-Oct	15.5%

At this time, syndromic surveillance is not indicating any outbreak of gastroenteritis due to the Austin Water Boil Advisory.

Austin Public Health Emergency Preparedness 1

Figure 2: Final released Austin Water Boil Advisory Surveillance Report.

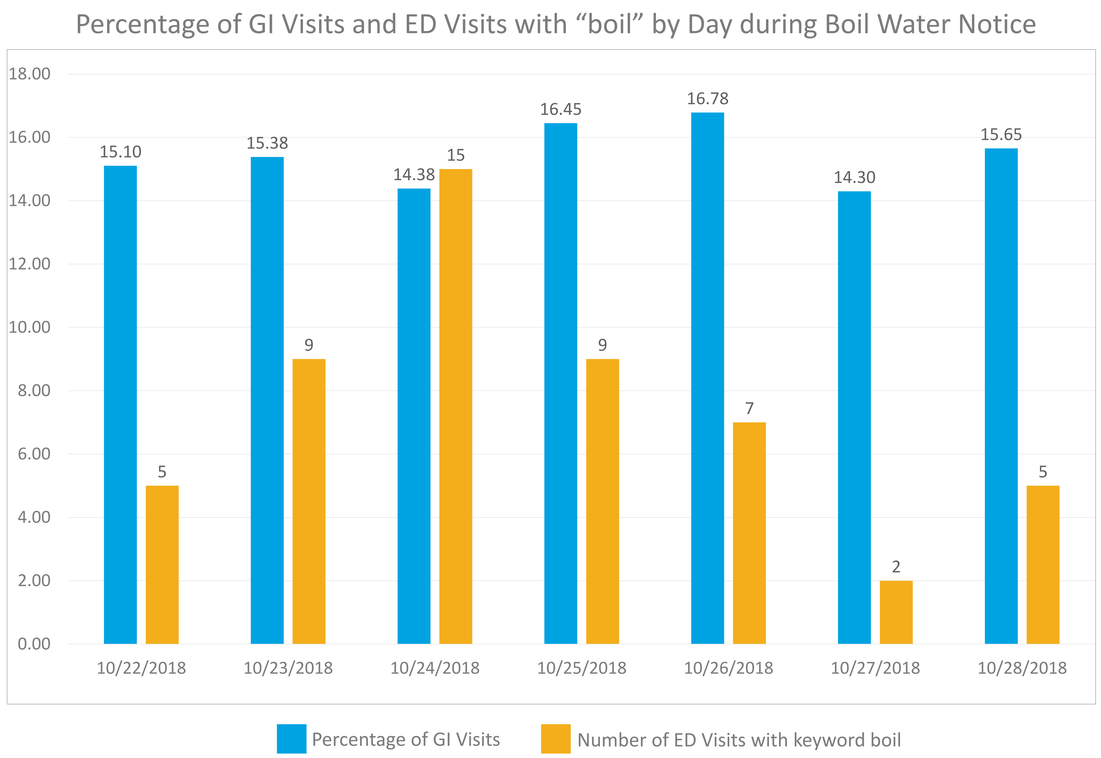


Figure 3: Daily comparison of surveillance comparing percentage of total emergency department visits that were related to gastrointestinal illness versus number of visits related to the keyword boil in the chief complaint text.

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