Using ESSENCE During a Gastrointestinal Outbreak

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Introduction

A call was received on Wednesday, 12/19/2018 from a DSHS Food Sanitarian reporting that 44 of 82 attendees (54% attack rate) to a company Christmas party became ill with abdominal cramps and diarrhea. The company Christmas party was held on Friday, 12/14/2018 and the menu consisted of turkey, stuffing, gravy, green bean casserole and rolls. Most people reported becoming ill within 24-48 hours of the party and illness lasted approximately 24 hours.

The City of Beeville Health Inspector had gathered a list of names and phone numbers of the ill. The contact information was shared with the DSHS Regional Epi program and the City Health Inspector was established the as the point of contact. The Health Inspector said that most individuals had resolved their illness. The Epi team called ill patients to gather information on what they ate, signs and symptoms they experienced and to ask them to consider visiting the doctor for testing. In the course of the investigation, the Epi team learned that some school aged children were ill as well, so, the team began calling schools, providers and the local hospital as well as conducting syndromic surveillance to try and establish any links between the ill and the company party.

Methods

ESSENCE was used to capture gastrointestinal (GI) illness activity in Bee County. Multiple time series were run based on Emergency Department (ED) data in Beeville. Query fields consisted of the following:

- Geography System
  - Bee, TX
- Medical Grouping System:
  - Query1: ChiefComplaintSubSyndrome
    - Key terms used: Abdominal pain, diarrhea, nausea, vomiting
  - Query2: Syndrome
    - GI Illness
  - Query3: ChiefComplaints
    - Free Text; Abdominal pain, stomach cramps, diarrhea, stomach bug, stomach virus
- Start date: December 10, 2018
- End date: December 18, 2018

GI data was gathered from the infection preventionist at Christus Spohn Health System at Beeville. The data consisted of chief complaints from the ED including nausea, vomiting, gastroenteritis, and diarrhea.
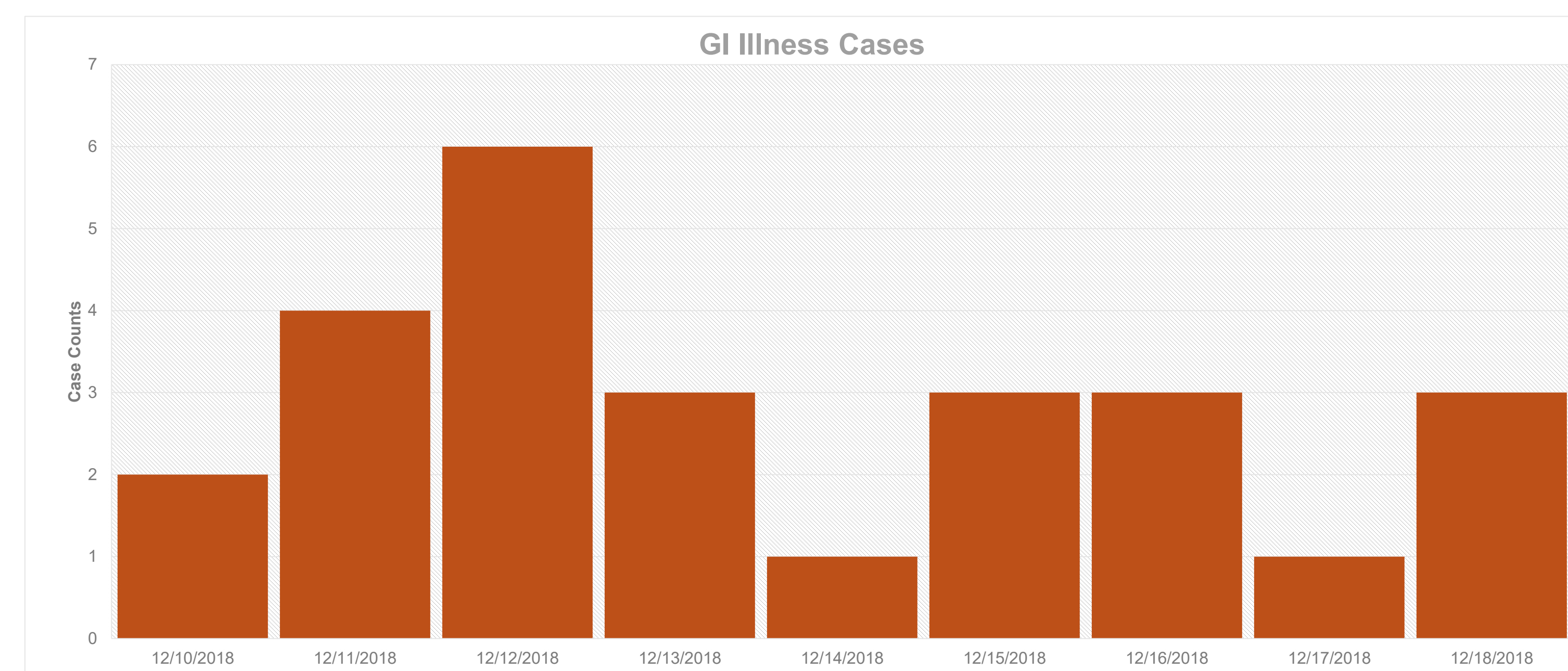
Results

Table 1: The total number of GI cases between December 10, 2018 through December 18, 2018 from ESSENCE.

Discussion and Conclusion

Data obtained from Query2 and ED data received from Christus Spohn infection preventionist were compared. The ESSENCE data results and the ED raw data both yielded a total of 26 GI illness cases. The similar results could be due to the query medical grouping system in ESSENCE and the hospital database for GI illness. The ESSENCE data and ED raw data were both gathered based on similar chief complaints. Query1 and Query3 did not produce any data for the submitted time series. The lack of results could have been due to the specific query searches used and the exclusion of "gastroenteritis" in the medical grouping system.

No GI illnesses were reported to public health from the hospital during this time period, possibly indicating that no specimen testing was completed. The outbreak remains of unknown etiology because individuals form the party had resolved their illness and no one had agreed to get tested.

Continually working with the infection preventionist and ESSENCE during this outbreak situation helped us understand the number of GI illnesses seen at the local hospital. As future reference, broader searches will be required when using Query1 and Query3 in order to produce data. In spite of the limitations, ESSENCE did yield comparable results to the data received from the local hospital.

Based on our observations, there is always an opportunity to educate and provide guidance to the community, providers and infection preventionist.

Acknowledgments:

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