

# TWEET TWEET TICK

## A Quantitative Content Analysis of Risk Communication About Ticks on Twitter

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### BACKGROUND

61% of pathogen species that cause human disease were confirmed to be zoonotic. Vector-borne diseases in the U.S. doubled, and ticks are one of the main reasons.

Ticks create serious health issues for people (e.g., Lyme disease). It reduced productivity in economic animals and fever in companion animals.

Climate and environmental change and some human behaviors allowed for rapid vector-borne diseases to spread.

Two qualities of social media:

- Communicating with the public in real-time
- Enhancing public engagement with its two-way communication nature

70% of Twitter users receive news from this representative platform.

Twitter engagement can be calculated as (replies + likes + retweets) / total number of followers.



### AIM & RESEARCH QUESTIONS

This study aimed to understand the current discussions on ticks and their prevention on Twitter.

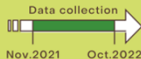
**RQ1:** How do tweets present risk from ticks?

**RQ2:** What is the engagement rate of tweets?

**RQ3:** How do tweet frames and engagement rates change over time within a year?

**RQ4:** What is the relationship between the content elements and the engagement rate of tweets?

### METHODS

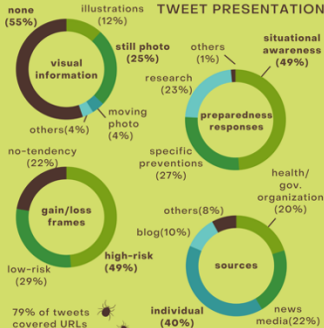


(N = 340)

- prevent
- protect
- attach
- bite
- remove
- Lyme
- disease
- tickborne

At least **1** reply like retweet as the minimum limit

Tweets must have contained "ticks" and at least one of keywords at right:



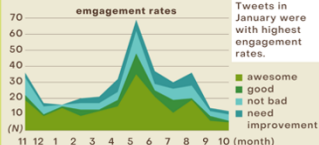
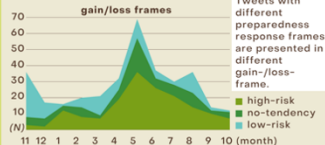
### ENGAGEMENT RATE

< 0.005% - Need improvement	15%
0.005% - 0.037% - Not bad	21%
0.037% - 0.098% - Good	13%
> 0.098% - Awesome	51%

### References



### YEAR TREND



### CONTENTS & ENGAGEMENT RATE

Tweets with visual information have higher rates ( $p = .01$ ); while tweets with URLs have lower rates ( $p < .001$ ).

### CONCLUSIONS

This study is the first to analyze visual information and frames of tick risk communication on Twitter to our knowledge. Our findings improve the understanding of tickborne diseases presented on social media.



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